

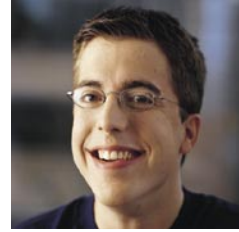
The logo features a stylized orange flame icon on the left. To its right, the text "2004" is in a bold, red, sans-serif font. Below "2004", the word "TOPCODER" is written in a bold, orange, sans-serif font. Underneath "TOPCODER", the word "Open" is written in a cursive, orange script font, followed by a small trademark symbol (TM).

2004
TOPCODER
Open™

Sponsored by **Microsoft®**

November 11 & 12, 2004
Santa Clara Marriott,
Santa Clara, CA USA

It's amazing what you can do here.



Imagine having the resources to create tomorrow's technology today, using your skills to create products and solutions that will touch the lives of millions of people. And having fun while you do it. That's Microsoft. People at Microsoft love their work because they get to think big and dream big. A proud sponsor of this year's competition, Microsoft is looking for the next generation of technology innovators. If you have talent and a passion for technology, this could be your big moment.

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microsoft.com/college

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Microsoft

Founder's Message

Welcome to the 2004 TopCoder® Open, sponsored by Microsoft®. TopCoder continues to grow with membership now over 45,000. This year's competition includes plenty of veterans, with many new members mixed in to spice up the competition. I welcome you all.

The Algorithm Competition of the TCO04 started with more than 1,000 participants. Of the final 24, 14 have been previous onsite finalists, but only 6 are returning from the 2003 TCO, and 10 are here for the first time. The competition continues to broaden internationally, with 11 finalists from the US and 13 from other countries around the world. Many participants have traveled a great distance to participate in the finals.

For those who are unaware, TopCoder members can compete to develop commercial software for our customers in the form of components and applications. Our component competitions bring a real-world software development dimension to the tournament by measuring design and development ability. Rivalries during these component competitions of the TCO continue to rise. There has been a 60% increase in the number of component rated members since the last TCO.

TopCoder welcomes Microsoft as a first time sponsor of one of our major tournaments. It is clear that Microsoft knows how to drive success, and that drive begins with talent. With such a small company like TopCoder interacting with a large one like Microsoft, one would be forgiven for thinking that TopCoder would be easily smothered. However, nothing could be further from the truth. Microsoft has been a huge help to us in planning this tournament – never a small task.

The rest of the sponsors are all TopCoder veterans. We have gotten to know the people at Yahoo!, NVIDIA and Intel through our past tournaments. From helping shape the contests, to working with us on layout and design, to setting up the arena, we couldn't get it done without them. Each and every one of them is a class act.

Once again, the TopCoder staff have outdone themselves. Coordinating the myriad tasks that go into an event of this size is daunting, to say the least. Pulling it off with the professionalism that the TC staff does is next to impossible. But, apparently, the impossible is what the TC staff specializes in. I would also like to thank all of the TopCoder members who build our systems, write problems, review designs and code, and administer contests.

Once again, I welcome you all to the 2004 TopCoder Open, sponsored by Microsoft. As always, best of luck to you in the Arena!



Jack Hughes
Founder, TopCoder, Inc.

Schedule Of Events

WEDNESDAY, NOVEMBER 10, 2004

6:00pm - 8:00pm Welcome Reception

THURSDAY, NOVEMBER 11, 2004

8:00am - 9:00am Breakfast

9:00am - 10:00am Yahoo! Presentation

10:00am - 11:45am Algorithm Semifinal Room 1

11:45am - 1:00pm Lunch

1:00pm - 2:45pm Algorithm Semifinal Room 2

3:00pm - 4:00pm Intel Presentation

4:00pm - 5:45pm Algorithm Semifinal Room 3

6:00pm - 7:00pm NVIDIA Presentation

7:30pm - 10:30pm Microsoft's Evening with the Participants

FRIDAY, NOVEMBER 12, 2004

9:00am - 3:30pm Spectator Showdown

10:00am - 11:45am Algorithm Wildcard Round

12:00pm - 1:00pm Lunch

1:00pm - 2:00pm Microsoft Presentation

2:30pm - 4:15pm Algorithm Championship Round

4:15pm - 4:45pm Component Design & Development Competition Review

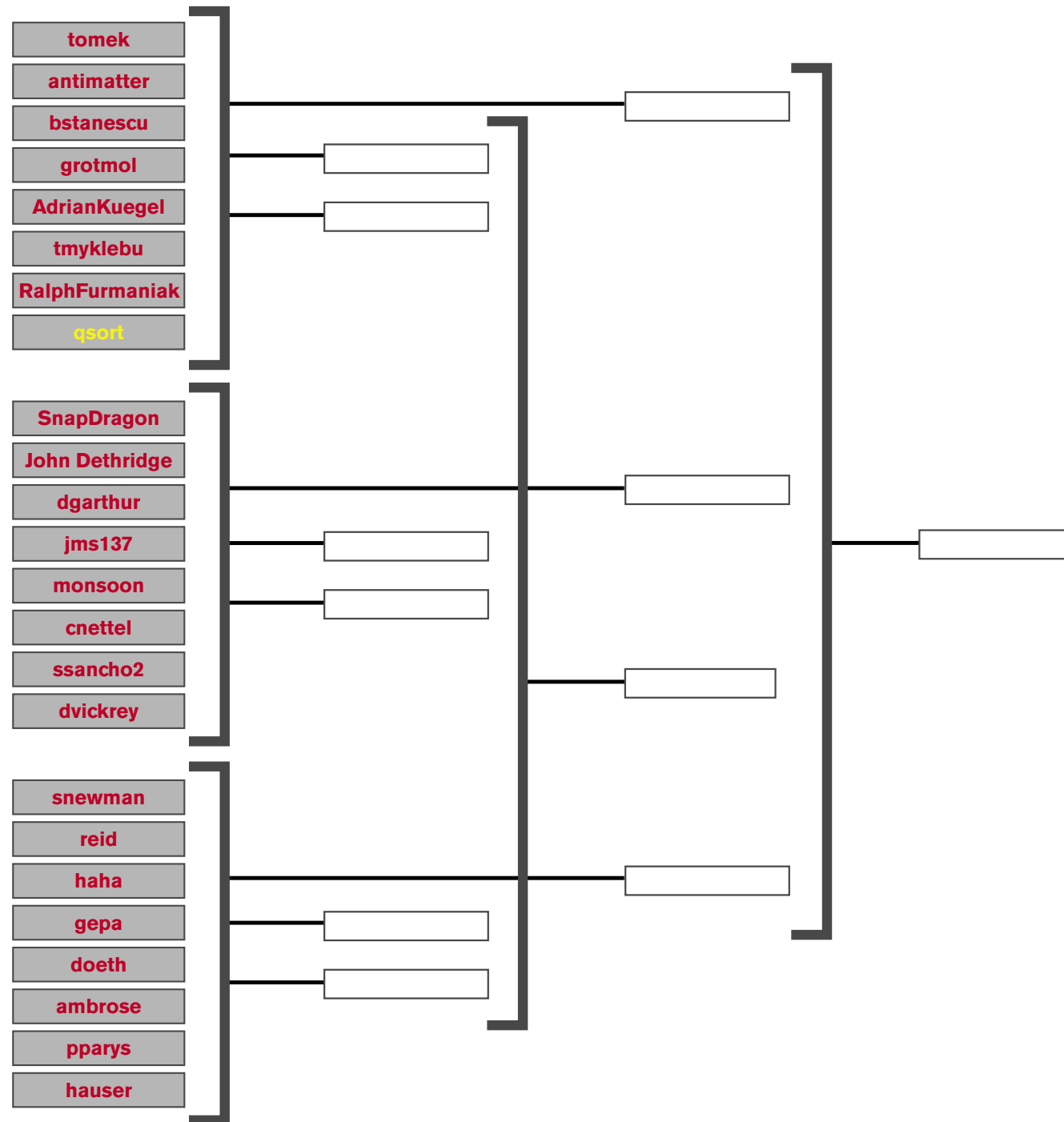
4:45pm - 5:00pm All Champion Announcements

5:00pm - 6:00pm Media Hour/Press Conference

7:00pm - 9:00pm Awards Reception

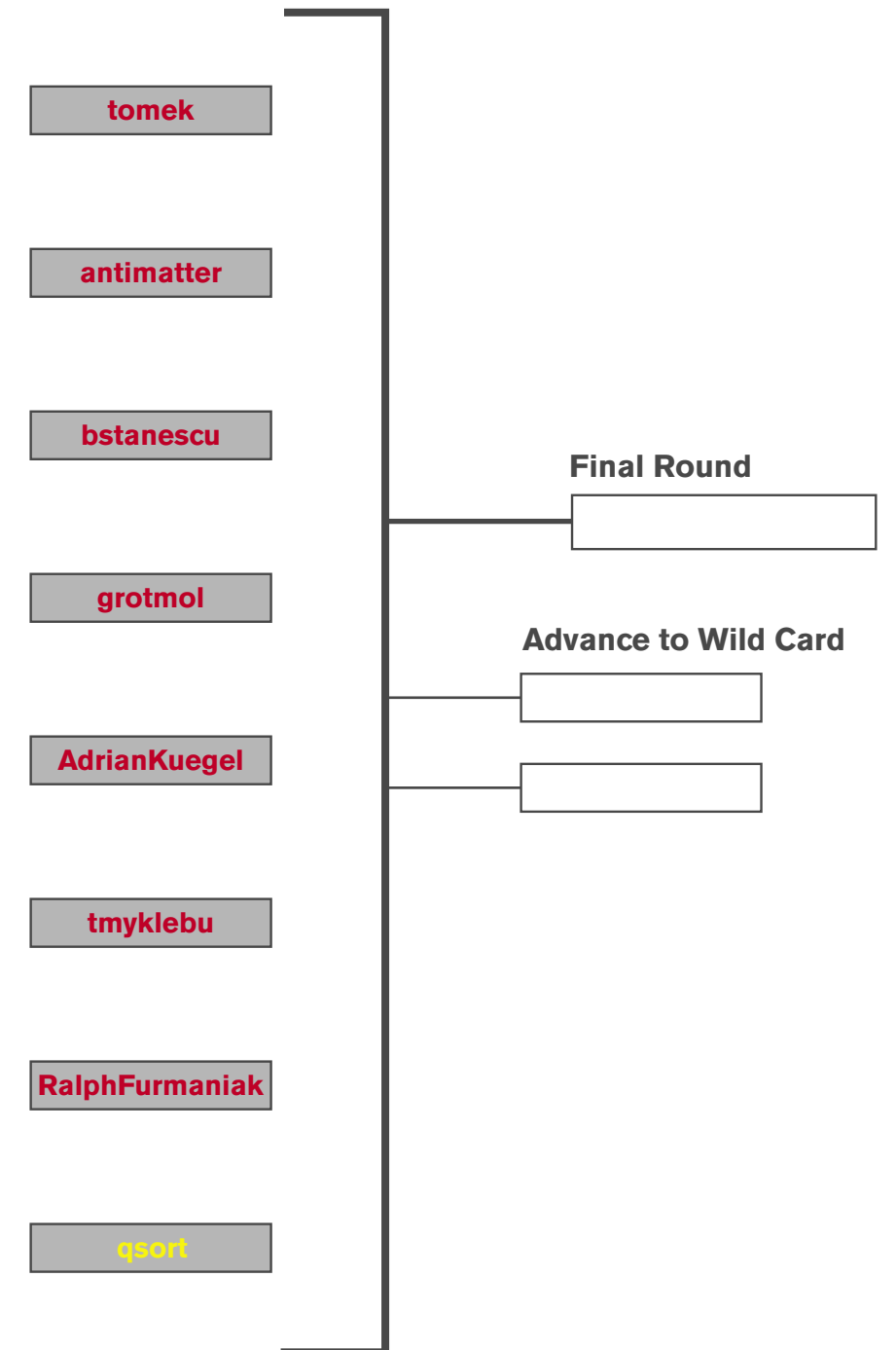
Algorithm Competition

Semifinal Rounds Wildcard Round Final Round Champion



Algorithm Competition

SEMIFINAL ROOM 1





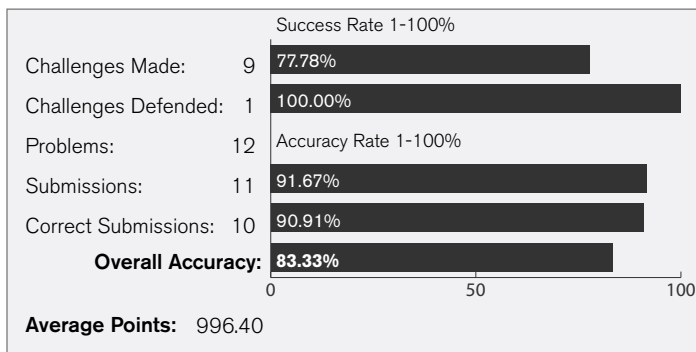
Tomasz Czajka
Poland

Current Rating: 3426
 Current Ranking: 1
 Rating Percentile: 99.99
 Number of Ratings: 52
 Highest Rating: 3577
 Lowest Rating: 1816

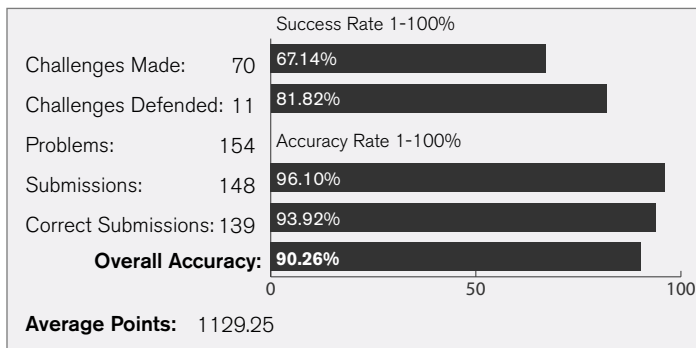
- TC** What types of companies are you most interested in working for (e.g., size, industry)? Why?
- TC** Small, innovative companies seem to be the most fun.
- TC** What is most important to you in a job (e.g., technology exposure, recognition, benefits, salary)?
- TC** Technology exposure & challenges
- TC** What sort of software do you write? Do you develop utilizing an object oriented or a component based approach? Why?
- TC** Games, raytracers, heavy algorithmic computations. I've been developing a raytracer using OOP as much as possible.

- TC** Describe the greatest challenge you have overcome when developing a piece of software. What was it you were developing?
- TC** I like it when the greatest challenge is working the algorithm out in your head before you start coding.
- TC** Which TopCoder member do you most admire and why?
- TC** radeye for dvips
- TC** In the movie of your life, what song would be playing in the background during the opening scene?
- TC** Dance Dance Revolution
- TC** What is your favorite algorithm?
- TC** Integer sorting in expected $O(n \log \log n)$ time by Andersson '95.

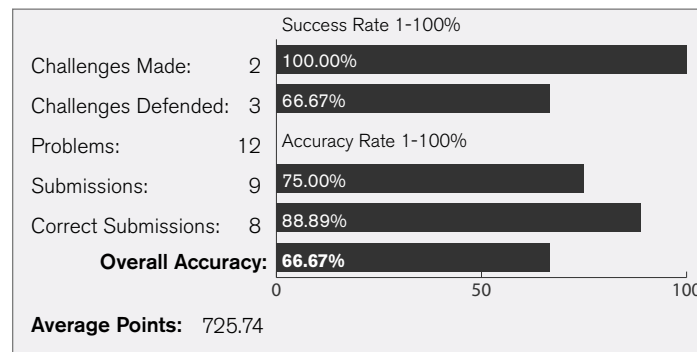
TC004 TOURNAMENT STATISTICS



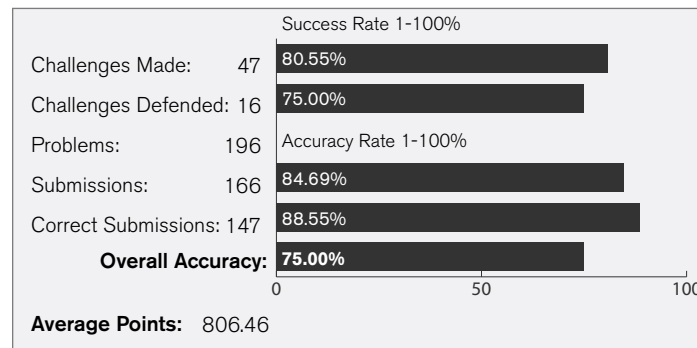
OVERALL COMPETITION STATISTICS



TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



Bogdan Stanescu
Romania

Current Rating: 2888
 Current Ranking: 11
 Rating Percentile: 99.88
 Number of Ratings: 65
 Highest Rating: 2943
 Lowest Rating: 1800

- TC** Describe the greatest challenge you have overcome when developing a piece of software. What was it you were developing?
- BS** I designed a scripting language for defining input forms that would elicit instances and relationships in a semantic network, and developed a (semi-)visual tool to write scripts in that language. Because nothing like that had been done before, the language went through several versions (first one in 2001) and was loosely inspired by the similar feature from database systems.
- TC** What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?
- BS** (I hope) Tools that will allow

software developers to write and maintain code using speech and touch input.

- TC** In your opinion, who is currently the most influential person in technology?
- BS** I don't know, but I think it takes more than one person (a company, maybe) to make something really influential.
- TC** In the movie of your life, what song would be playing in the background during the opening scene?
- BS** The movie of MY life? That's funny. Will Smith - Black Suits Coming
- TC** What will you do with the money if you win the grand prize in this tournament?
- BS** I have no plan for what to do with the money long term, but I would buy a dishwasher immediately.



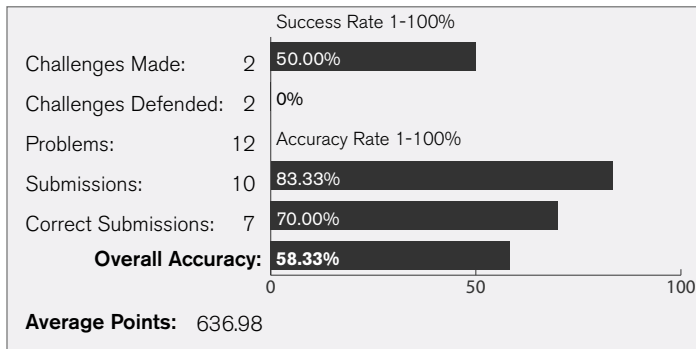
Hubert Hwang
United States

Current Rating: 2854
 Current Ranking: 12
 Rating Percentile: 99.87
 Number of Ratings: 107
 Highest Rating: 2923
 Lowest Rating: 1268

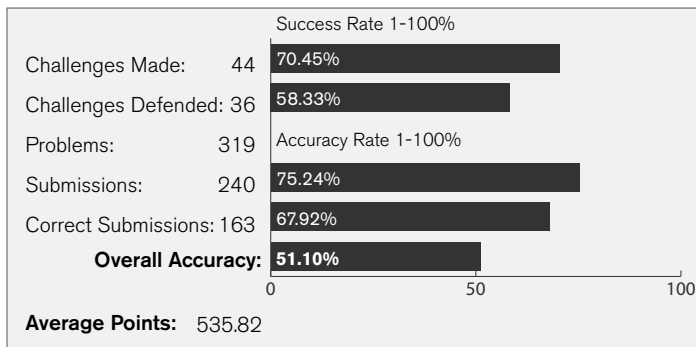
- TC** What is most important to you in a job (e.g., technology exposure, recognition, benefits, salary)?
- HH** Cool tech. I mean, the others matter too, but the ability to mess around with Cool Things (TM) definitely can make up for slight deficiencies elsewhere.
- TC** What sort of software do you write? Do you develop utilizing an object oriented or a component based approach? Why?
- HH** In my copious free time, I tend to go for small projects - whatever strikes me at the moment. Usually I tend to aim more for the object-oriented approach, mainly because a lot of things (but definitely not everything) break down nicely that way.

- TC** Which TopCoder member do you most admire and why?
- HH** Most recently, all of the folks on RedTeam, for their performance in the ICFP.
- TC** In the movie of your life, what song would be playing in the background during the opening scene?
- HH** "Winter Born" by the Cruxshadows.
- TC** What little thing do you do every day that is the secret of your success?
- HH** Sleep all the time. This is to the exclusion of other silly things, like, say, staying awake in lecture, doing homework, and eating at normal hours.

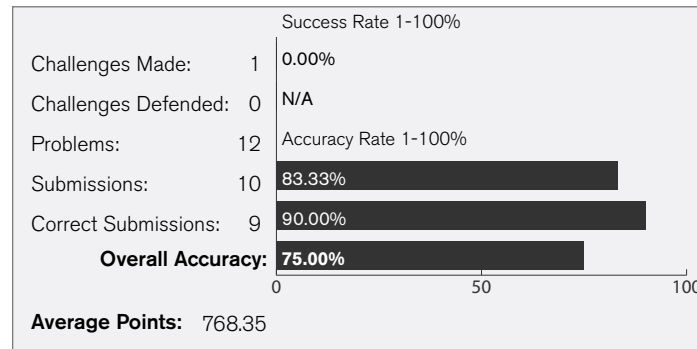
TC004 TOURNAMENT STATISTICS



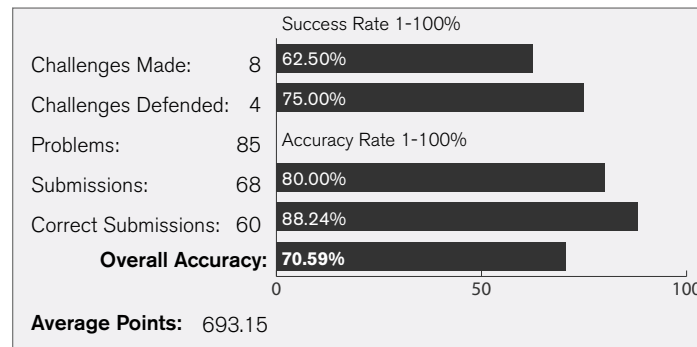
OVERALL COMPETITION STATISTICS



TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



Oyvind Grotmol
Norway

Current Rating: 2624
 Current Ranking: 28
 Rating Percentile: 99.68
 Number of Ratings: 29
 Highest Rating: 2646
 Lowest Rating: 1293

- TC** What types of companies are you most interested in working for (e.g., size, industry)? Why?
- OG** The industry of digital electronics is the most appealing to me, since I find the challenges of digital design and architecture most interesting. Both the excitement of a start-up and the technology of a market leader are attractive.
- TC** If you could work for any company in the world, which would it be and why?
- OG** NVIDIA because they design some of the most advanced microchips and allow me to really utilize my talents.

- TC** What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?
- OG** Multiple-processor chips will hopefully give parallel algorithms and software more importance.
- TC** What is the most interesting field in computer science?
- OG** Chip architecture
- TC** In the movie of your life, what song would be playing in the background during the opening scene?
- OG** "Dovregubbens Hall" (In the Hall of the Mountain King) by Edvard Grieg



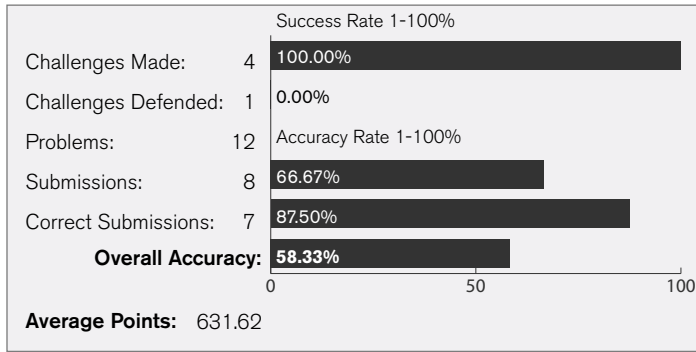
Adrian Kuegel
Germany

Current Rating: 2552
 Current Ranking: 34
 Rating Percentile: 99.62
 Number of Ratings: 60
 Highest Rating: 2616
 Lowest Rating: 1336

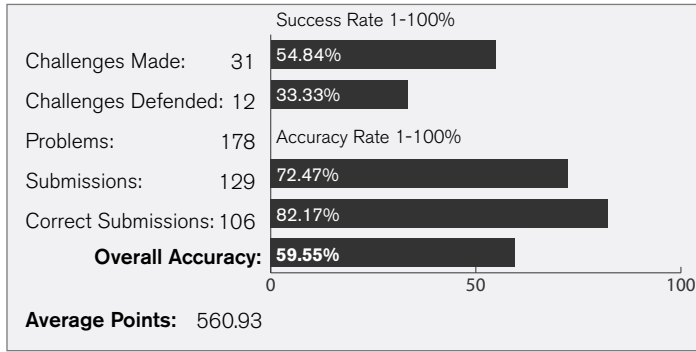
- TC** Describe the greatest challenge you have overcome when developing a piece of software. What was it you were developing?
- AK** Extending some existing system without prior knowledge of the structure of the system. It was a prototype of an extension for DB2.
- TC** What are your favorite software design tools and software development tools?
- AK** Software Design tool: Sheet of Paper, Visio. Software Development tool: Netbeans, Eclipse.
- TC** What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?

- AK** A tool do remove bugs in software automatically would be great ;-)
- TC** Which TopCoder member do you most admire and why?
- AK** SnapDragon, because he is not only one of the best problem solvers in the world, but also a really good problem setter.
- TC** In the movie of your life, what song would be playing in the background during the opening scene?
- AK** The title song of Forrest Gump because I like the melody so much.
- TC** What is your favorite algorithm?
- AK** Floyd-Warshall; but as a problem solving method, I like divide and conquer even more.

TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



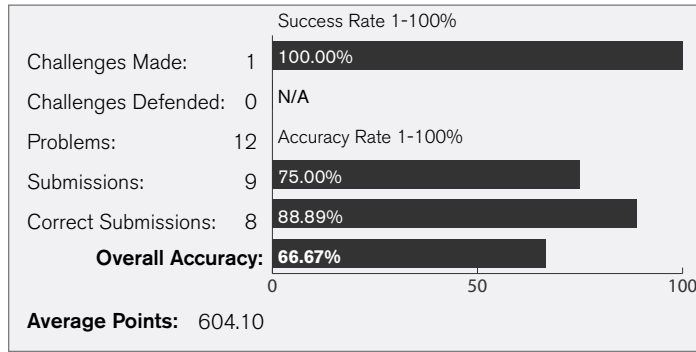
Ralph Furmaniak
Canada

Current Rating: 2433
 Current Ranking: 46
 Rating Percentile: 99.48
 Number of Ratings: 19
 Highest Rating: 2433
 Lowest Rating: 1645

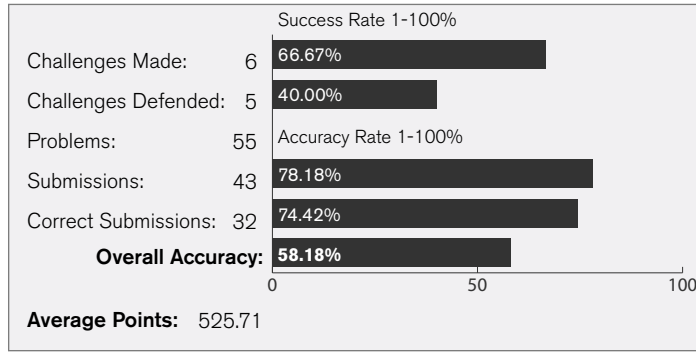
- TC** If you could work for any company in the world, which would it be and why?
- RF** If this counts: Princeton or Harvard as a professor of mathematics.
- TC** What sort of software do you write? Do you develop utilizing an object oriented or a component based approach? Why?
- RF** I write whatever I need to write, preferably something that takes real thought and analysis. Nearly everything I write becomes an object so that things work well together.
- TC** What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?

- RF** More powerful languages and APIs. C++ is great, but is missing many useful high-level features. Microsoft is going there with C#.net, and Apple has it with Cocoa.
- TC** In the movie of your life, what song would be playing in the background during the opening scene?
- RF** Theme from "A Beautiful Mind." My family still teases me about how in first-year, I had a roommate named Charles, who was never around when they were there, and never picked up the phone.
- TC** What will you do with the money if you win the grand prize in this tournament?
- RF** Run for president.

TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



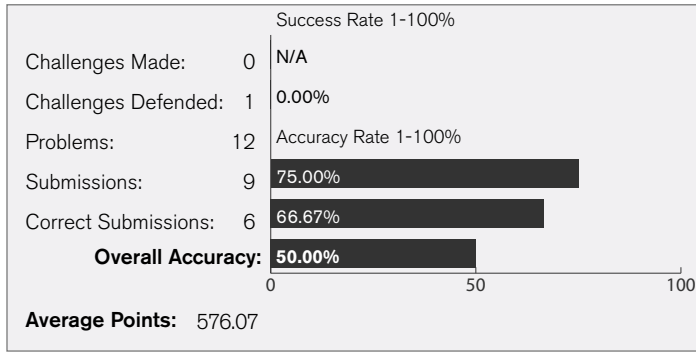
Tor Myklebust
Canada

Current Rating: 2424
 Current Ranking: 49
 Rating Percentile: 99.45
 Number of Ratings: 25
 Highest Rating: 2424
 Lowest Rating: 1679

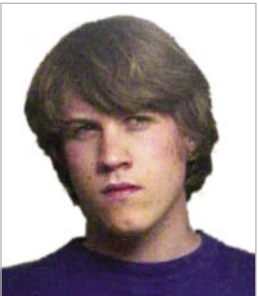
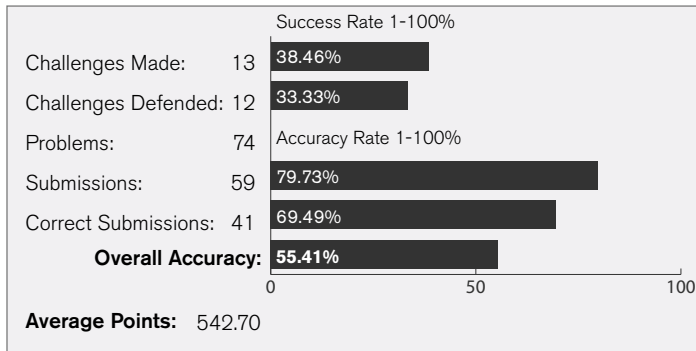
- TC** What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?
- TM** The force-feedback compiler. It will cause programmers to become much better at writing correct code.
- TC** What is your favorite all-time TopCoder problem?
- TM** I liked antimatter's bipartite matching problem from SRM200. I also liked Brett1479's DFA-minimisation problem (SRM 193).

- TC** Which TopCoder member do you most admire and why?
- TM** SnapDragon. Nobody should be able to solve problems that quickly.
- TC** In the movie of your life, what song would be playing in the background during the opening scene?
- TM** The title song to Stormlord.
- TC** What is your favorite algorithm?
- TM** Brzozowski's algorithm for minimising DFAs. (Turn all the arcs around, do the subset construction, turn them around again, and do the subset construction again.)

TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



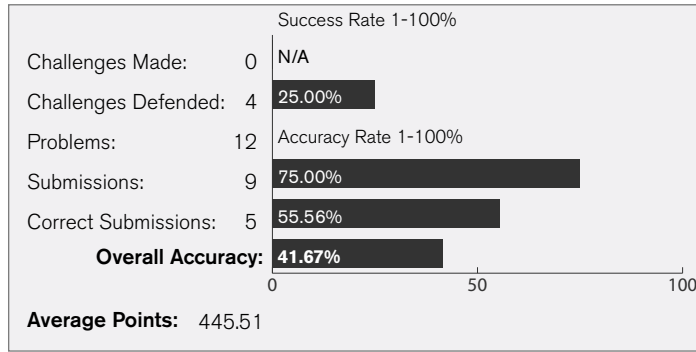
Erik Bernhardsson
Sweden

Current Rating: 2005
 Current Ranking: 165
 Rating Percentile: 98.14
 Number of Ratings: 42
 Highest Rating: 2164
 Lowest Rating: 1309

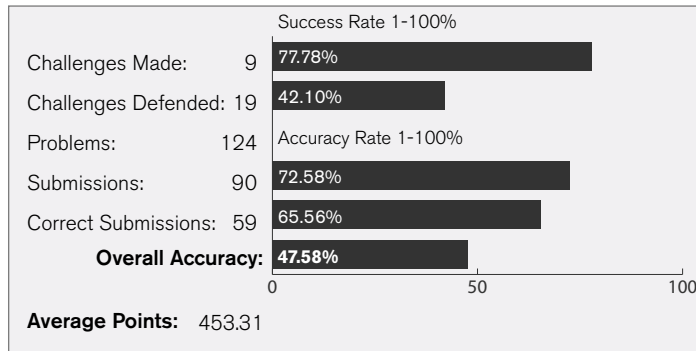
- TC** What sort of software do you write? Do you develop utilizing an object oriented or a component based approach? Why?
- EB** Object oriented. I develop some networking overviews applications right now.
- TC** If you could work for any company in the world, which would it be and why?
- EB** IBM
- TC** Describe the greatest challenge you have overcome when developing a piece of software. What was it you were developing?
- EB** Writing a 2D collision detection system for a game.

- TC** Which TopCoder member do you most admire and why?
- EB** Yarin, I think. He has taught me so much.
- TC** What is the most interesting field in computer science?
- EB** Number theoretic algorithms.
- TC** In the movie of your life, what song would be playing in the background during the opening scene?
- EB** Probably some strange electronic, or something by Debussy.
- TC** What was the coolest poster on your bedroom wall as a kid?
- EB** I had a cool stereogram 3D-picture.

TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS





Derek Kisman Canada

Current Rating: 3276
Current Ranking: 3
Rating Percentile: 99.97
Number of Ratings: 105
Highest Rating: 3468
Lowest Rating: 1695

software comes from concurrency issues that the programmers weren't equipped to understand or debug.

TC Which TopCoder member do you most admire and why?

DK Reid. Definitely the smartest out of us all, and he'd slaughter us if he ever decided to take these competitions seriously. Fortunately for us, he doesn't!

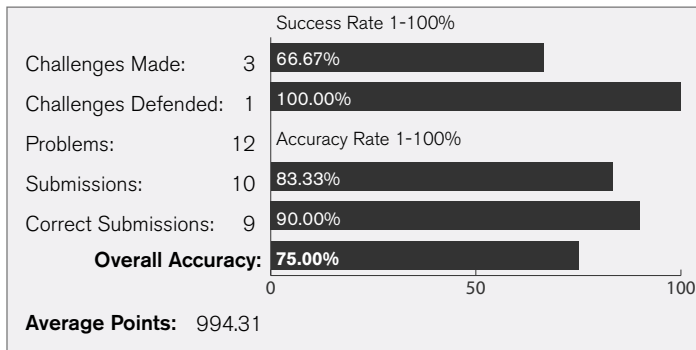
TC In your opinion, who is currently the most influential person in technology?

DK Bill Gates... any idea he has in the middle of the night ends up in 3 billion homes the next day.

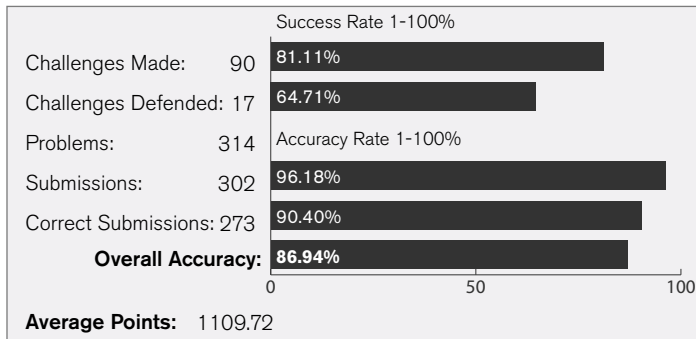
TC In the movie of your life, what song would be playing in the background during the opening scene?

DK "It's All About The Pentiums" by Weird Al

TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



TC What types of companies are you most interested in working for (e.g., size, industry)? Why?

DK Programming for a videogame company. If I'm going to be working hard on software, why not have the final product be something I can have fun with?

TC What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?

DK Machine language is coming back. Mark my words. Seriously, though, we're going to have to come up with a really error-free way to do parallelized and multi-threaded programs. Most of the unpredictable nature of current



John Dethridge Australia

Current Rating: 3109
Current Ranking: 6
Rating Percentile: 99.93
Number of Ratings: 78
Highest Rating: 3337
Lowest Rating: 1908

complicated techniques for solving a real-time problem, because I had to optimize each very carefully to be sure which method was faster in practice.

TC How much free time do you choose to spend designing software? Writing code? Testing code? Why do you spend (or not spend) your free time this way?

JD Perhaps several hours of my free time a week, partly for programming contests, partly to solve problems and try out ideas interesting to me.

TC What was the coolest poster on your bedroom wall as a kid?

JD Probably a poster of Apollo 11

TC What will you do with the money if you win the grand prize in this tournament?

JD Buy everyone a beer. :)

TC If you could work for any company in the world, which would it be and why?

JD Probably a company like Google, because they allow their staff to spend time trying their own ideas.

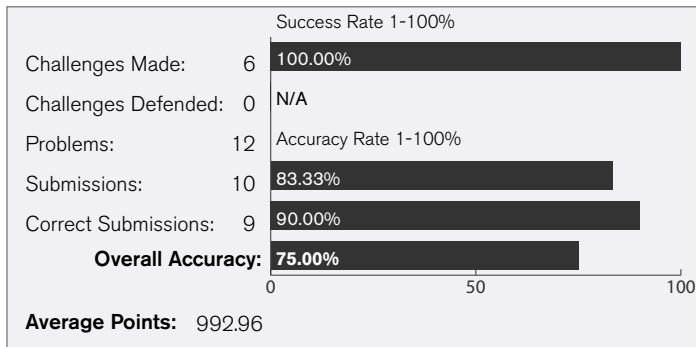
TC What sort of software do you write? Do you develop utilizing an object oriented or a component based approach? Why?

JD I mostly write software for doing scientific calculations. I find an object-oriented approach most appropriate, but most of the work is low-level code.

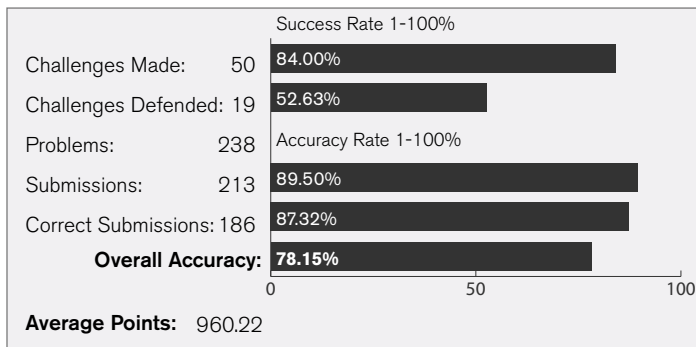
TC Describe the greatest challenge you have overcome when developing a piece of software. What was it you were developing?

JD Probably when I was comparing two

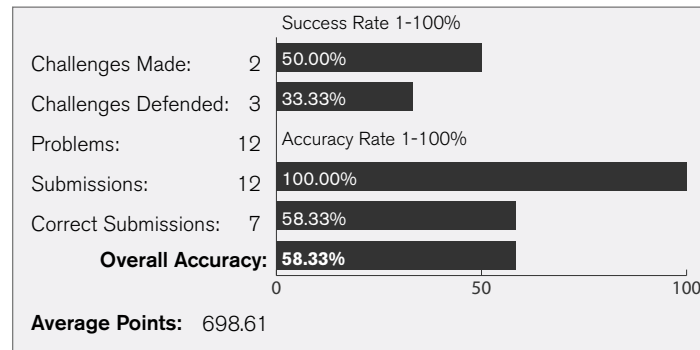
TC004 TOURNAMENT STATISTICS



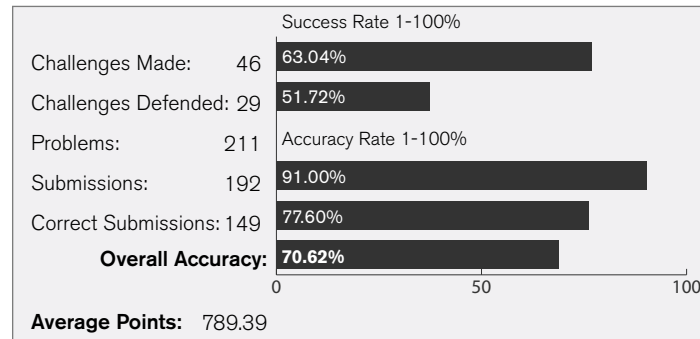
OVERALL COMPETITION STATISTICS



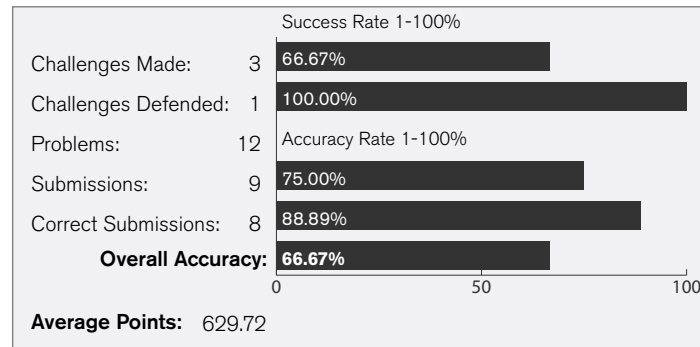
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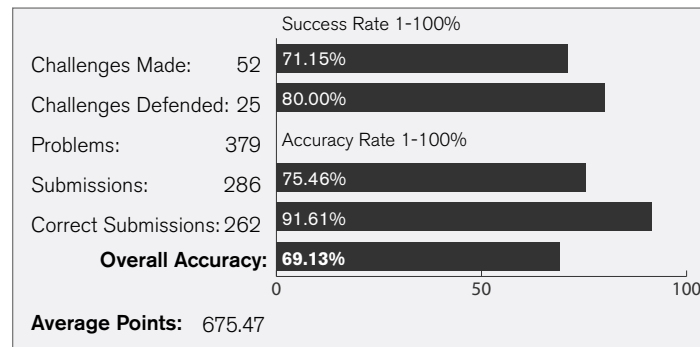
OVERALL COMPETITION STATISTICS



TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



David Arthur United States

Current Rating: 2833
Current Ranking: 14
Rating Percentile: 99.84
Number of Ratings: 71
Highest Rating: 2962
Lowest Rating: 1448

TC If you could work for any company in the world, which would it be and why?

DA After my internship at Google, I have a hard time picking out a company I think would be better to work at. The atmosphere and perks are wonderful, but most importantly, they are pushing technology in ways that most of us can only imagine.

TC Describe the greatest challenge you have overcome when developing a piece of software. What was it you were developing?

DA I made some fairly extensive utilities for OpenGL, and getting a good balance of speed, compatibility, flexibility and elegance was probably one of the hardest things I have ever tried.

TC What are your favorite software design tools and software development tools?

DA Pen and paper or simple HTML for design, Visual C++ or emacs/Java for development.

TC Which TopCoder member do you most admire and why?

DA Reid, but possibly just because I have known him the longest. You can get desensitized to super-geniuses if you are not careful.

TC In the movie of your life, what song would be playing in the background during the opening scene?

DA "Rock the Casbah" by the Clash.

TC What was the coolest poster on your bedroom wall as a kid?

DA They were all Toronto Blue Jays posters.



Jared Showalter United States

Current Rating: 2786
Current Ranking: 16
Rating Percentile: 99.82
Number of Ratings: 125
Highest Rating: 2786
Lowest Rating: 1557

TC What sort of software do you write? Do you develop utilizing an object oriented or a component based approach? Why?

JS Broadly speaking, I write language tools. I do typically use an object-oriented approach, but I think that having a well-designed large scale structure is more important than the specific approach of that structure.

TC How much free time do you choose to spend designing software? Writing code? Testing code? Why do you spend (or not spend) your free time this way?

JS Talking purely about free time, I'd guess about ten hours a week total, plus or minus five. I'd guess that could be split into 20% designing, 60% writing code, and 20% testing.

However, this is very much guessing. I choose to spend free time this way because I enjoy it.

TC Which TopCoder member do you most admire and why?

JS I admire Reid Barton for his achievements in the IMO in addition to his performance in programming competitions.

TC In the movie of your life, what song would be playing in the background during the opening scene?

JS "Ride of the Valkyrie"

TC What was the coolest poster on your bedroom wall as a kid?

JS It was a picture of some sort of fractal that I printed on a dot-matrix printer.



Tomasz Idziaszek Poland

Current Rating: 2751
Current Ranking: 20
Rating Percentile: 99.78
Number of Ratings: 50
Highest Rating: 2786
Lowest Rating: 1779

Writing code? Testing code? Why do you spend (or not spend) your free time this way?

I spend a few hours nearly every day coding. As a kid I wanted to create things which would be living their own lives. That meant I should become either a director or a programmer. The computer was first..

In the movie of your life, what song would be playing in the background during the opening scene?

"The Best" performed by Tina Turner.

What was the coolest poster on your bedroom wall as a kid?

A map of the Earth with strange world records marked on it (e.g., where a man with a-few-metres-long nails lives).

What is most important to you in a job (e.g., technology exposure, recognition, benefits, salary)?

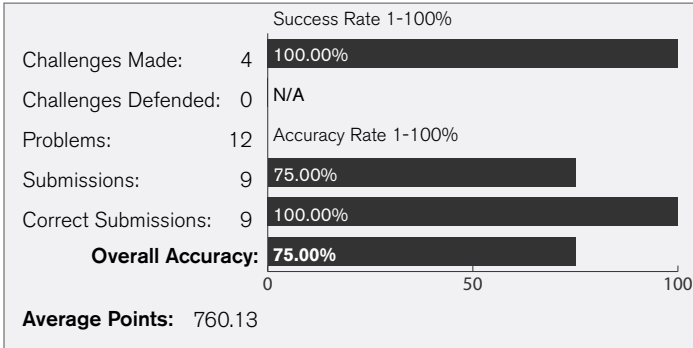
Satisfaction from learning new things and watching my programs run. Every time I write my first program using new technology, it feels like discovering a new continent.

What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?

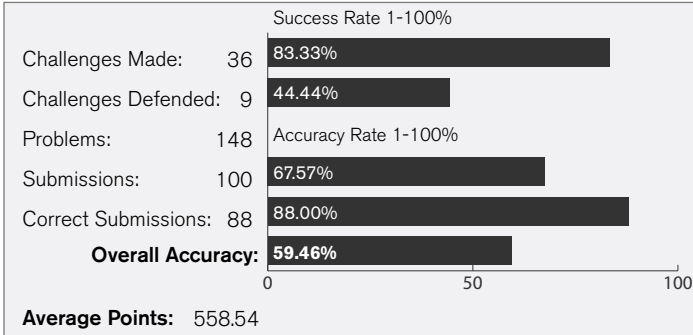
A program is like a book, Internet is like a radio, therefore The Next Big Tool will be like a television.

How much free time do you choose to spend designing software?

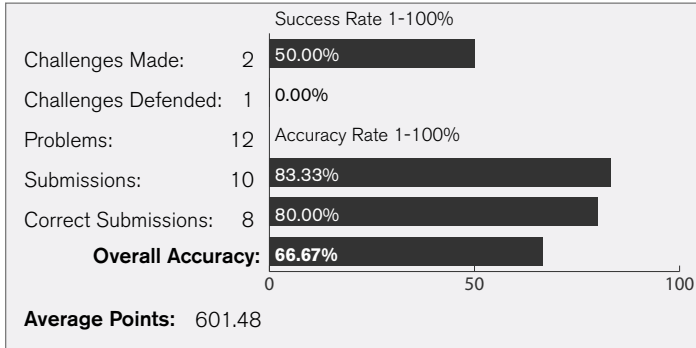
TC004 TOURNAMENT STATISTICS



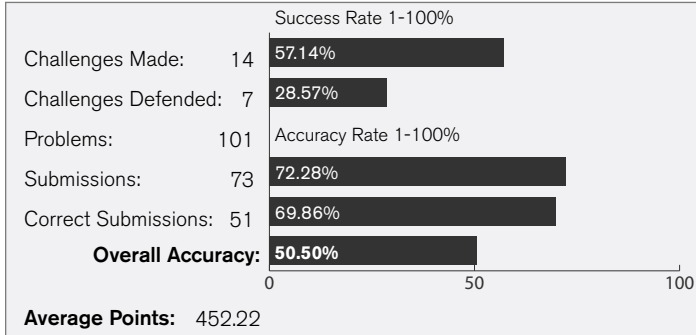
OVERALL COMPETITION STATISTICS



TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



Sergio Sancho Argentina

Current Rating: 2410
Current Ranking: 51
Rating Percentile: 99.43
Number of Ratings: 34
Highest Rating: 2410
Lowest Rating: 1449

What types of companies are you most interested in working for (e.g., size, industry)? Why?

I prefer medium size companies, because they are a good blend between the chaos of small companies and the pressing order of the big ones. Regarding industry type, I would like to work in game industries, since I like gaming. But any company with challenging day-to-day work is fine.

If you could work for any company in the world, which would it be and why?

It'd be Blizzard Entertainment, makers of the best computer

games in the world. They also have great respect for their clients, never releasing an unfinished product.

Which TopCoder member do you most admire and why?

Tomek is a great guy, I met him personally at last year's Google Code Jam and had a very good impression of him. Eryx and his new 'functional' library deserve some mention too. It is a work of art!

What little thing do you do every day that is the secret of your success?

I try not to focus too much in one thing, keeping a open mind..



Carl Nettelblad Sweden

Current Rating: 2271
Current Ranking: 85
Rating Percentile: 99.04
Number of Ratings: 63
Highest Rating: 2444
Lowest Rating: 1579

database managers to process queries in the most efficient way.

In the movie of your life, what song would be playing in the background during the opening scene?

The same as in the opening of 2001, just because it has been so misused in movies and parodies after that to signal grandeur.

What little thing do you do every day that is the secret of your success?

Brush my teeth. And maybe riding my bike to campus, 6 km in each direction.

What will you do with the money if you win the grand prize in this tournament?

Finance my studies (to avoid getting in debt, which is the other option) and probably get a huge TFT screen for DVDs and coding.

What are your favorite software design tools and software development tools?

Visual Studio.NET I liked the old Borland Pascal environment from about 1992, too.

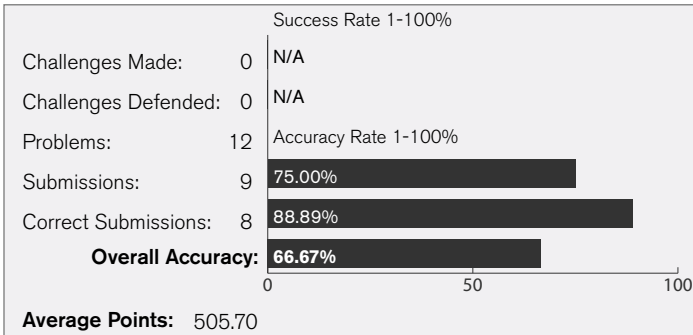
Which TopCoder member do you most admire and why?

tomek, because of his great results. Possibly Yarin, though, because I've actually met him and I know him to be a great guy even outside of the arena.

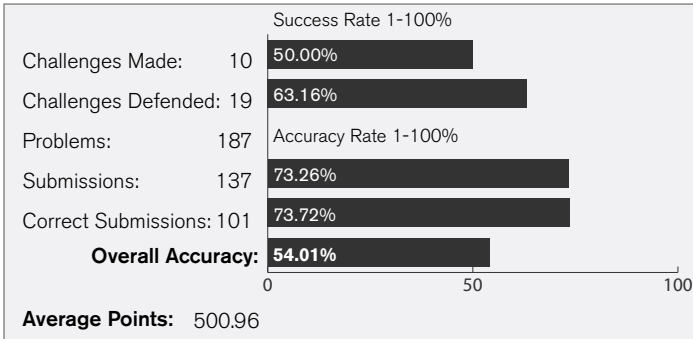
What is the most interesting field in computer science?

If I knew more about it, I think compiler writing/optimization would be interesting. This also connects closely to the heuristics used in

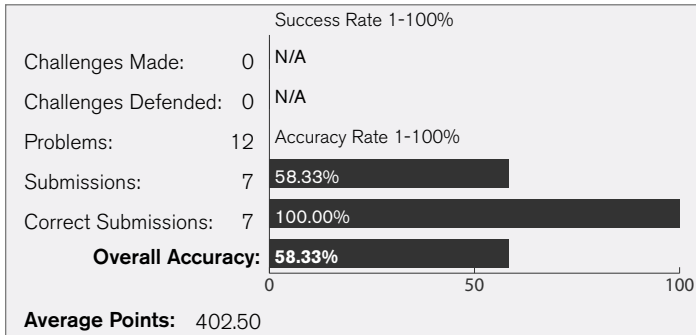
TC004 TOURNAMENT STATISTICS



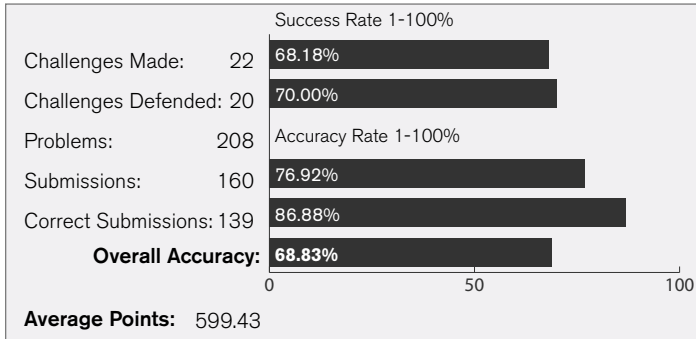
OVERALL COMPETITION STATISTICS



TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



David Vickrey United States

Current Rating: 2209
Current Ranking: 100
Rating Percentile: 98.87
Number of Ratings: 70
Highest Rating: 2361
Lowest Rating: 1301

What types of companies are you most interested in working for (e.g., size, industry)? Why?

Size doesn't matter too much, although I probably prefer companies that aren't TOO small, as this can potentially create long working hours, etc. I'm interested in companies which use machine learning and other artificial intelligence techniques, such as Google or Microsoft.

What sort of software do you write? Do you develop utilizing an object oriented or a component based approach? Why?

I write machine learning algorithms mainly; these are often fairly small scale, and fairly "messy". Whenever I write something larger, I generally

use C++ and have an object oriented approach, because it breaks things down into manageable pieces.

What are your favorite software design tools and software development tools?

I usually develop in Linux, using emacs, in C++; this means I use virtually no design or development tools. I also use Visual C++ when writing code for Windows.

What is your favorite algorithm?

I like clever algorithms which require nontrivial proofs to show they are correct. For example, you can construct a minimum spanning tree by going from the lowest to highest edge, skipping those that create cycles. Dijkstra's algorithm for shortest path is another example.



TopCoder Admins

You've talked to them in the applet and read their Round Table posts. Now see who they really are!



veredox

Matt Murphy
Project Manager

Pet Peeve: People who pronounce "milk" like "melk"



mike

Mike Lydon
CTO

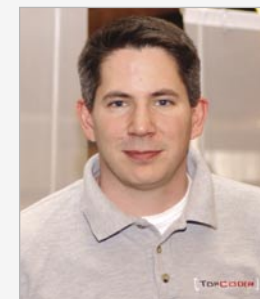
Pet Peeve: Slow drivers in the left lane!



TheFaxman

Ryan Fairfax
Developer

Favorite Superhero: The Green Lantern



mmorris

Mike Morris
VP Software Development

Hobby: Teaching kids to water ski.



mess

Dave Messinger
Project Manager

Hobby: Managing Fantasy Sports Teams



dok

Greg Paul
Director of Competitions

Hobby: Skiing



ntrefz

Nick Trefz
Graphic Designer

Hobby: Dance Dance Revolution



chrsie

Christie Tanguay
Accountant

Hobby: Cooking



bblais

Bill Blais
Project Manager

Favorite Superhero: Spiderman



ivern

Javier Fernandez-Ivern
Component Manager

Hobby: Arguing



thx1138

Travis Haas
Infrastructure Manager

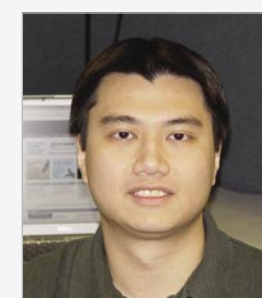
Hobby: Marathons & Triathlons



mbnd96

MaryBeth Luce
Operations Manager

Favorite Superhero: Mystique



TangentZ

Anthony Yuen
Project Manager

Pet Peeve: People who misuse the word "irregardless"

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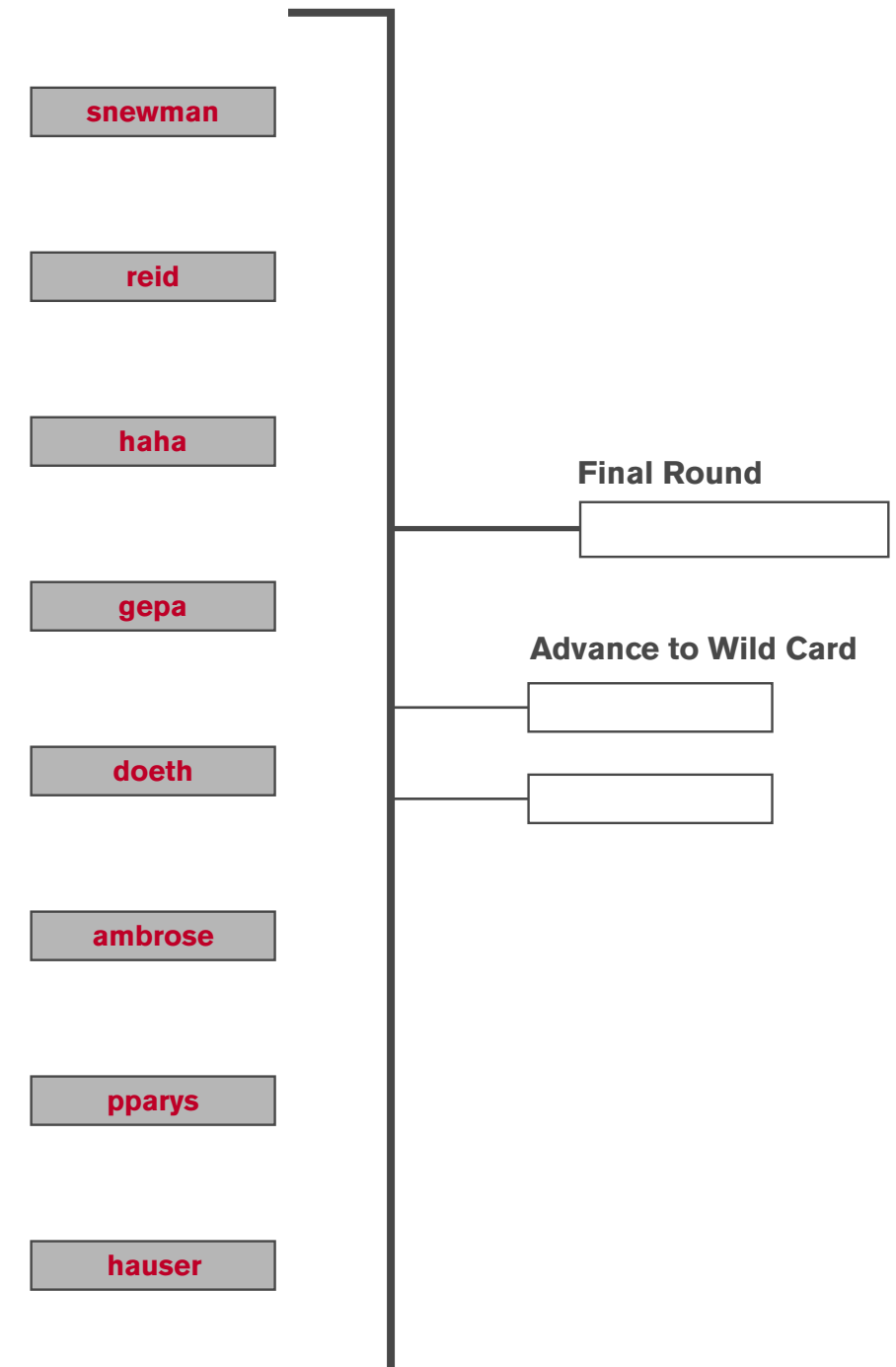
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Algorithm Competition

SEMIFINAL ROOM 3





Steve Newman United States

Current Rating: 3258
Current Ranking: 4
Rating Percentile: 99.96
Number of Ratings: 20
Highest Rating: 3336
Lowest Rating: 1909

working on development tools for my own use. I find this area of work to be both intellectually stimulating, and worthwhile for the productivity benefit from better tools.

TC What little thing do you do every day that is the secret of your success?

SN Eat and sleep. I find these activities to be vital. Seriously... I'm constantly analyzing my work and looking for directions in which to push myself. For many years I was pushing myself to better structure and comment my code. Now I'm working on being more incremental and avoiding over-engineering. If there's a "secret", it's constantly pushing yourself to improve in some way.

TC What will you do with the money if you win the grand prize in this tournament?

SN Donate it to autism research. Specifically, Dr. Bryna Siegel at UCSF has a project which I think is extremely worthwhile, but needs funding.

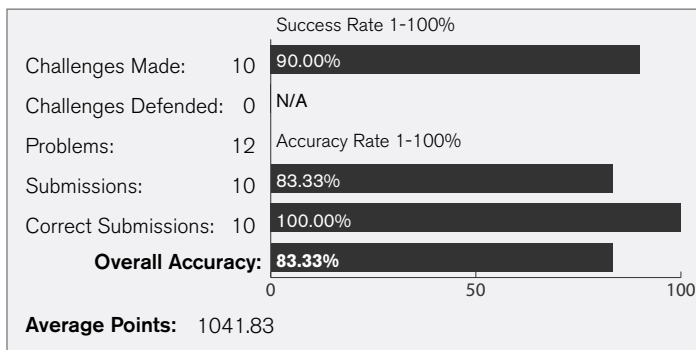
TC If you could work for any company in the world, which would it be and why?

SN I don't generally think in these terms, because I'm more interested in starting a new venture than joining an existing company. But if I had to pick an established company to join, Google would be near the top of my list. They have an engineering-focused culture, interesting and rapidly evolving products, and a reputation for being a fun place to work.

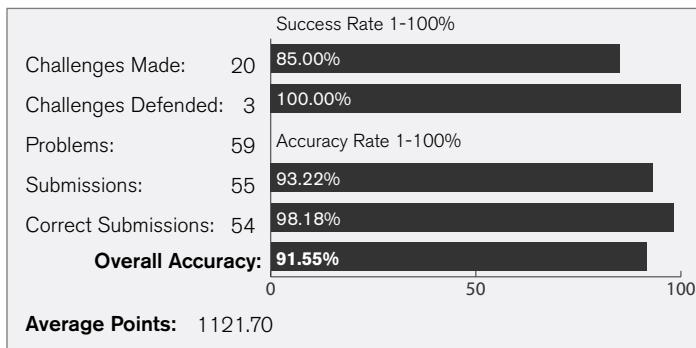
TC How much free time do you choose to spend designing software? Writing code? Testing code? Why do you spend (or not spend) your free time this way?

SN Well, I have two young children (ages 2 and 4), so between my "day job" and the kids, there's not much free time. When I do have extra time, a fair amount of it does wind up spent at the computer. Often

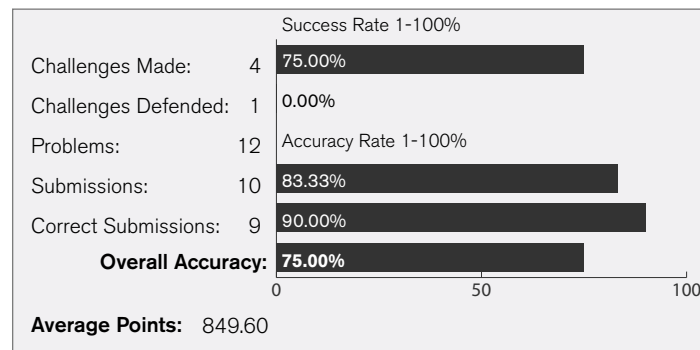
TC004 TOURNAMENT STATISTICS



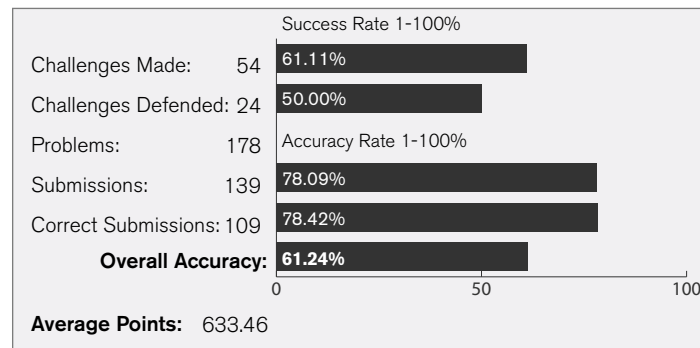
OVERALL COMPETITION STATISTICS



TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



Zheng Shao China

Current Rating: 2803
Current Ranking: 15
Rating Percentile: 99.83
Number of Ratings: 58
Highest Rating: 2806
Lowest Rating: 1559

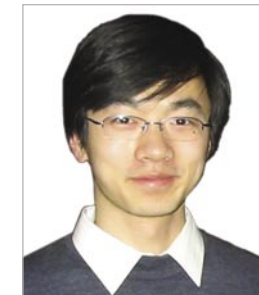
TC If you could work for any company in the world, which would it be and why?

ZS Google or Microsoft because both of them have a large internal codebase which can save me a lot of time when starting new projects.

TC What sort of software do you write? Do you develop utilizing an object oriented or a component based approach? Why?

ZS I don't write much software other than in my research work. I use both object oriented and a component based approach. By component, I mean I glue binary components together by scripts. This is good for highly dynamic structures of the experimental projects.

TC What do you think will be the next



big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?

ZS Component based developing. That is, to take a bunch of ready-made-and-tested components, write one screen of scripts, and you are all done.

TC In your opinion, who is currently the most influential person in technology?

ZS Bill Gates. If he invests a lot, he can control the technology direction, although it seems he is not investing a lot in technology other than holding Microsoft's stocks. What about selling Microsoft and buying a bunch of small startups?

TC What little thing do you do every day that is the secret of your success?

ZS I turn on my computer and begin to code when I get an idea from a dream. An idea later turned into my first published paper.



Reid Barton United States

Current Rating: 3284
Current Ranking: 2
Rating Percentile: 99.98
Number of Ratings: 50
Highest Rating: 3284
Lowest Rating: 1855

shift to revolutionize the software development industry? How will things change?

RB Safe languages and functional programming.

TC How much free time do you choose to spend designing software? Writing code? Testing code? Why do you spend (or not spend) your free time this way?

RB I spend a couple hours a week writing code, either because I need the software or as a way to learn about interesting programming techniques.

TC What was the coolest poster on your bedroom wall as a kid?

RB A poster showing the electromagnetic spectrum.

TC What types of companies are you most interested in working for (e.g., size, industry)? Why?

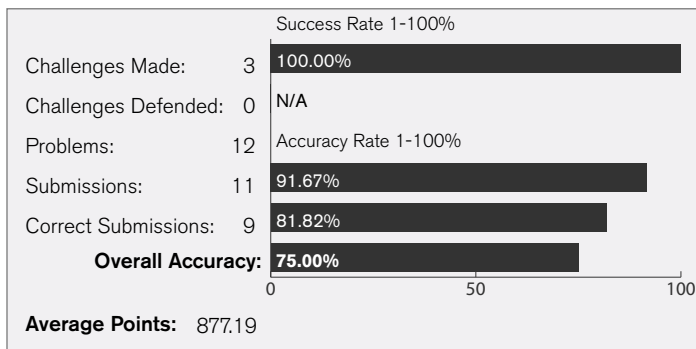
RB I'm most interested in doing research, so if I were to work for a company, it would have to have a strong research division.

TC What sort of software do you write? Do you develop utilizing an object oriented or a component based approach? Why?

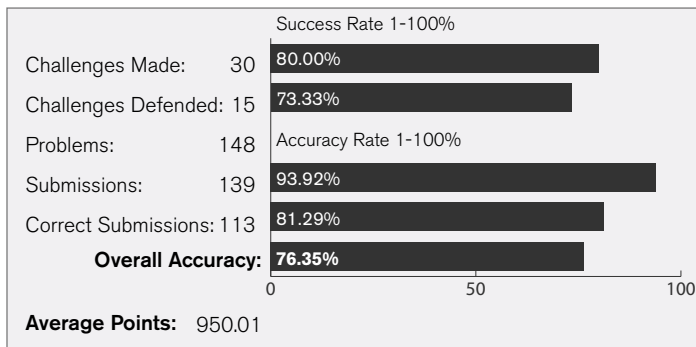
RB I tend to write in a functional style because I find it offers the greatest expressive power for the kinds of problems I want to solve.

TC What do you think will be the next big tool, technology or paradigm

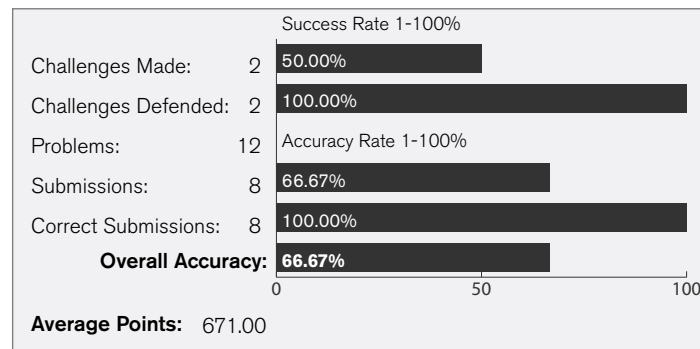
TC004 TOURNAMENT STATISTICS



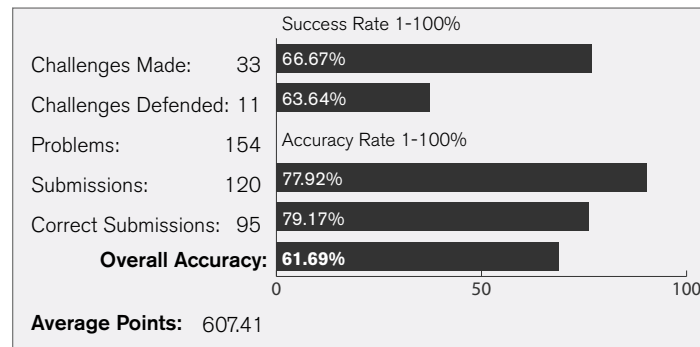
OVERALL COMPETITION STATISTICS



TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



Georgios Papoutsis Germany

Current Rating: 2630
Current Ranking: 26
Rating Percentile: 99.71
Number of Ratings: 52
Highest Rating: 2695
Lowest Rating: 1599

TC What types of companies are you most interested in working for (e.g., size, industry)? Why?

GP I prefer working for large companies that have expertise in many different areas, so that there are many opportunities to come in contact with new fields and work in interesting tasks.

TC What sort of software do you write? Do you develop utilizing an object oriented or a component based approach? Why?

GP Currently I write some puzzle generation and puzzle solving software, as well as my homework for the university.

TC If you could work for any company in the world, which would it be and why?

GP Some choices: IBM (they have an interesting research department), Google (I like them having small groups working at challenging problems) and NASA (they are working on interesting fields; unfortunately, they only hire US-citizens).

TC How much free time do you choose to spend designing software? Writing code? Testing code? Why do you spend (or not spend) your free time this way?

GP I like spending some of my free time writing code as a hobby. It is like solving and keeps my brain cells active.



Tom Do United States

Current Rating: 2402
Current Ranking: 53
Rating Percentile: 99.40
Number of Ratings: 85
Highest Rating: 2704
Lowest Rating: 1442

transparent role in software development as our understanding of learning algorithms improves.

- TC** How much free time do you choose to spend designing software? Writing code? Testing code? Why do you spend (or not spend) your free time this way?
- TD** I spend a few hours a week writing code -- it's good practice and lets me exercise my ability to think through problems carefully and clearly.
- TC** Which TopCoder member do you most admire and why?
- TD** Pops -- he really knows how to churn out reliable code.
- TC** In the movie of your life, what song would be playing in the background during the opening scene?
- TD** Theme to "George Lucas in Love"

TC What types of companies are you most interested in working for (e.g., size, industry)? Why?

TD I'm interested in working for companies with an involvement in data mining as my background is statistical learning.

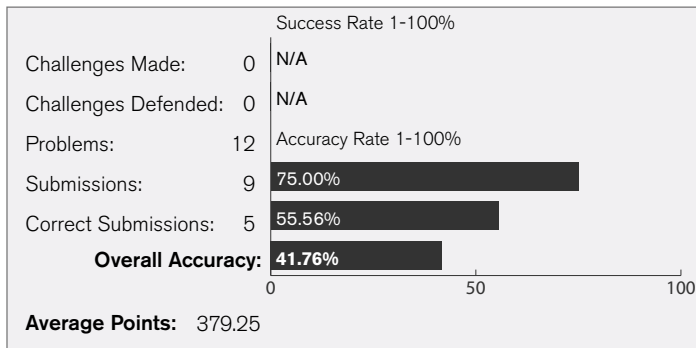
TC If you could work for any company in the world, which would it be and why?

TD I might work for Amazon.com doing research on consumer preferences and habits.

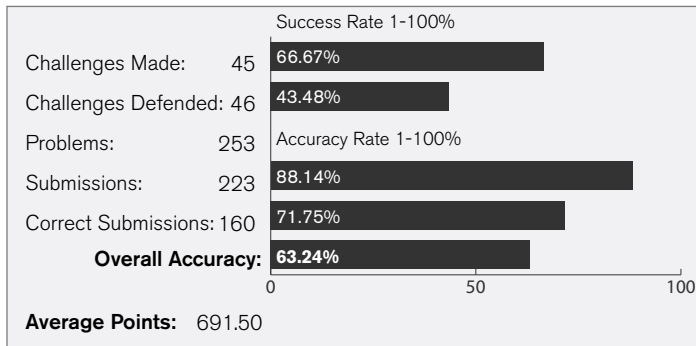
TC What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?

TD I believe that machine learning and intelligent agents will play a more

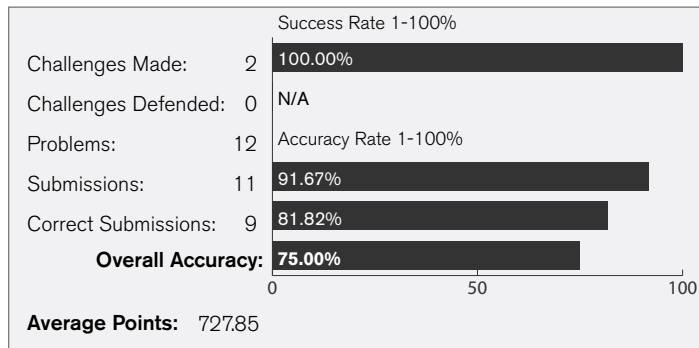
TC004 TOURNAMENT STATISTICS



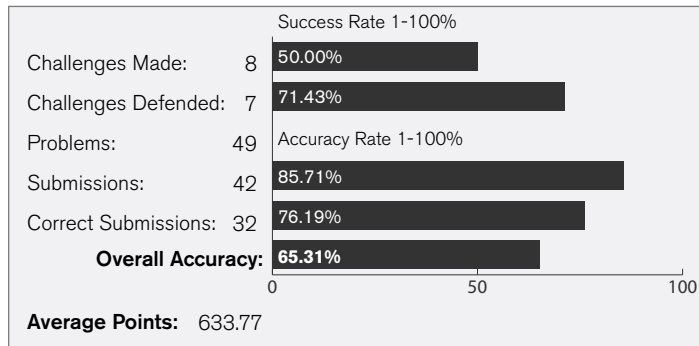
OVERALL COMPETITION STATISTICS



TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



Pawel Parys Poland

Current Rating: 2608
Current Ranking: 29
Rating Percentile: 99.67
Number of Ratings: 17
Highest Rating: 2608
Lowest Rating: 1565

What types of companies are you most interested in working for (e.g., size, industry)? Why?

PP Small companies (or at least small teams working on a given subject). I prefer research or scientific projects.

TC What is most important to you in a job (e.g., technology exposure, recognition, benefits, salary)?

PP That I can make good and new products.

TC What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?

PP Currently a lot of code is only for linking together components or



parts of software. I think that in the future, the parts will be automatically matched so that the programmer will write only fragments that really do something.

TC In the movie of your life, what song would be playing in the background during the opening scene?

PP "We are the Champions" by Queen

TC What little thing do you do every day that is the secret of your success?

PP I forget all the bad things and try to remember all good things.

TC What was the coolest poster on your bedroom wall as a kid?

PP It was a puzzle-made picture with a castle over the water.



Ambrose Feinstein United States

Current Rating: 2503
Current Ranking: 38
Rating Percentile: 99.57
Number of Ratings: 121
Highest Rating: 2823
Lowest Rating: 1365

for small projects.

- TC** What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?
- AF** I don't see any revolutions coming, only incremental change. I'm lately hoping for tools which store programs as abstract syntax trees instead of line-oriented plain text.
- TC** Which TopCoder member do you most admire and why?
- AF** ZorbaTHut has progressed astonishingly in the time he's been a member; he gives the impression that programming is just a hobby to him, yet still puts us to shame regularly. sneman's performance is really encouraging; I hope at his age I am still doing stuff like TopCoder, rather than burned out on programming like so many others.

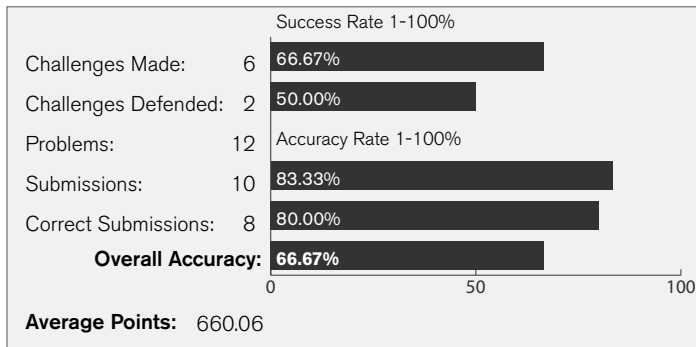
TC What is most important to you in a job (e.g., technology exposure, recognition, benefits, salary)?

AF Advancing the state of the art. Having some stake in the direction of my projects and organization as a whole. Reasonable flexibility about work site and hours.

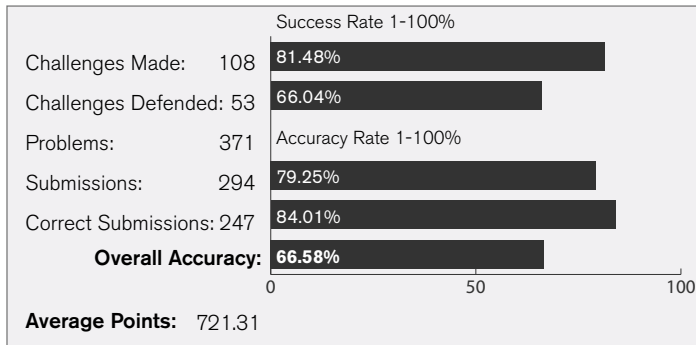
TC What are your favorite software design tools and software development tools?

AF Nothing is more effective for design than a discussion with a colleague and a notepad to record the important points. I eschew formal and visual tools like UML; I may find diagrams useful for communicating with others, but rarely need them to clarify an idea to myself. For development, I most often use vi, cvs, and make. I'm definitely aware of their flaws, but they are adequate

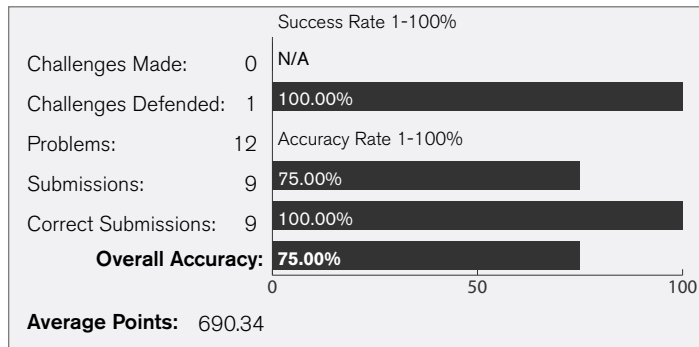
TC004 TOURNAMENT STATISTICS



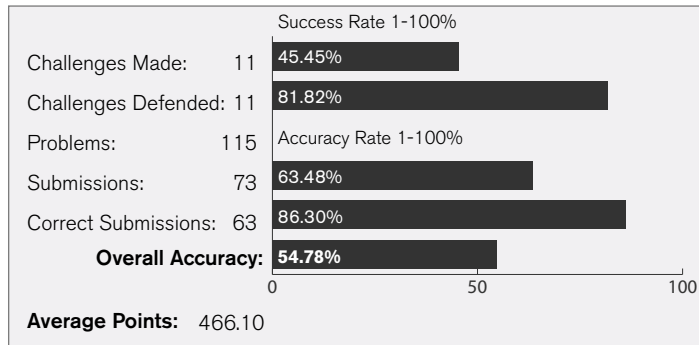
OVERALL COMPETITION STATISTICS



TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



Grzegorz Lukaszik Poland

Current Rating: 2295
Current Ranking: 81
Rating Percentile: 99.09
Number of Ratings: 39
Highest Rating: 2393
Lowest Rating: 1319

TC What sort of software do you write? Do you develop utilizing an object oriented or a component based approach? Why?

GL WEB based software. Rather object oriented, component base approach is much more time consuming - but probably less error prone.

TC If you could work for any company in the world, which would it be and why?

GL SUN or IBM

TC Describe the greatest challenge you have overcome when developing a piece of software. What was it you were developing?

GL Solving "Kamil" problem with as few characters as possible. We found a solution with 63 characters.

TC What are your favorite software design tools and software development tools?

GL Eclipse and Vim are my favorite tools. Eclipse for all its backup for writing Java code, and Vim for nice keyboard navigation -- what's more, Vim works almost everywhere.

TC What is your favorite all-time TopCoder problem?

GL RecursiveGraph from SRM188. I opened the easy and medium problems and had no idea how to do them. Then I opened the hard and made it. Nice SRM for me - I ended in 10th place with this one submission.

TC In the movie of your life, what song would be playing in the background during the opening scene?

GL "Mars Napada" by Kazik Staszewski



**OK, so you've
impressed us with
your coding abilities.
But can you yodel?**

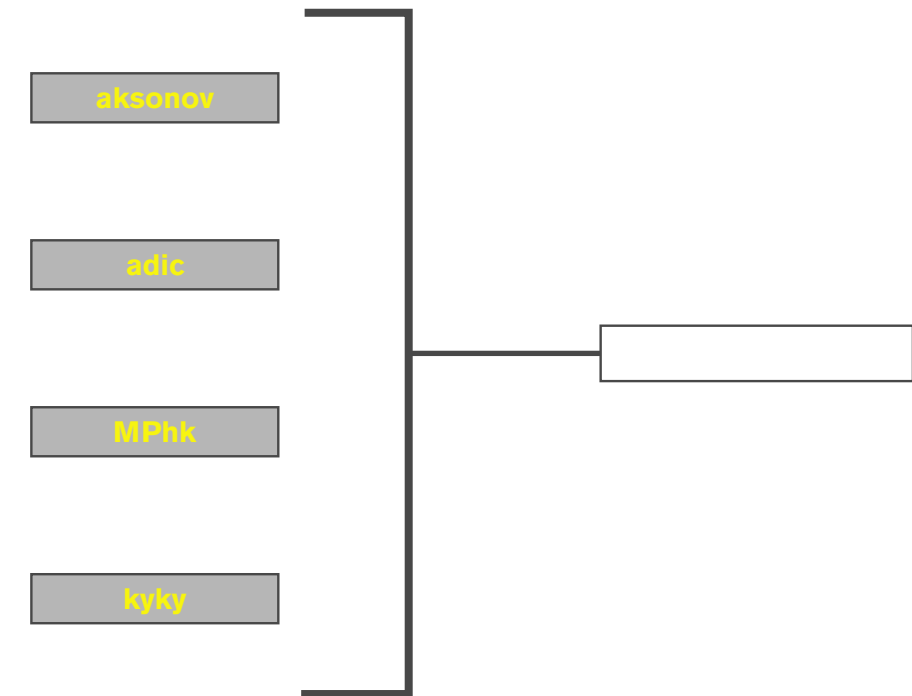
There is one thing at Yahoo! that's plain and simple: we have fun. Sure we work hard, but we find lots of ways to blow off steam. Sound good to you? Then give us a shout.

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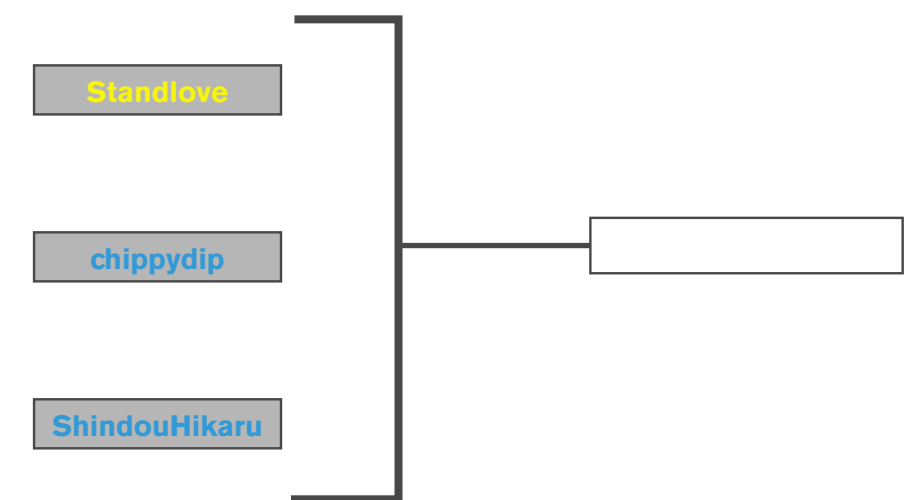
YAHOO!

Component Competition

DESIGN



DEVELOPMENT





Pavlo Aksonov
Ukraine

Algorithm Rating: 1693
Design Rating: 1962
Development Rating: 1221
Total TC Earnings: \$50,110

TC What types of companies are you most interested in working for (e.g., size, industry)? Why?

PA Big software companies that use the latest architecture and development technologies.

TC What sort of software do you write? Do you develop utilizing an object oriented or a component based approach? Why?

PA Various web applications and TopCoder design projects. I develop utilizing both object oriented and component approaches to take the best from both worlds.

TC What are your favorite software design tools and software development tools?

PA 1) Sparx Enterprise Architect (it's much quicker than Poseidon) 2) .NET Visual Studio, Eclipse

TC What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?

PA Maybe virtual reality, it will make people addendums and neurons of the global world computer network. :)

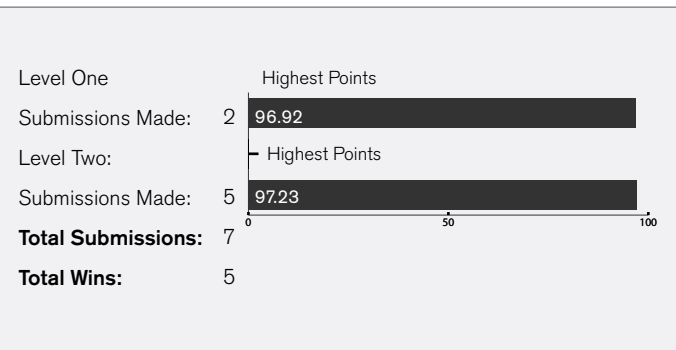
TC In the movie of your life, what song would be playing in the background during the opening scene?

PA "Nothing else matters" by Metallica

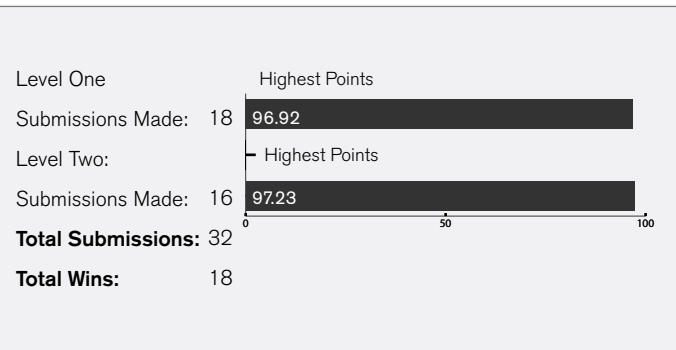
TC What is your favorite algorithm?

PA Euler cycle

TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



Mihai Pasca
Romania

Algorithm Rating: 1251
Design Rating: 1634
Development Rating: Not Rated
Total TC Earnings: \$9,837

TC What types of companies are you most interested in working for (e.g., size, industry)? Why?

MP I would like to work in companies involved in research because I find this best suits my innovative spirit - always in search of new and improved ways of doing things.

TC What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?

MP I am currently looking in MDA paradigm, and I believe it is the right way to automate most of the tasks for building an enterprise application.

TC What is your favorite all-time TopCoder problem?

MP SRM 124, Division 1, Solar. I like the problems that require geometry skills, and this one was one of the most interesting.

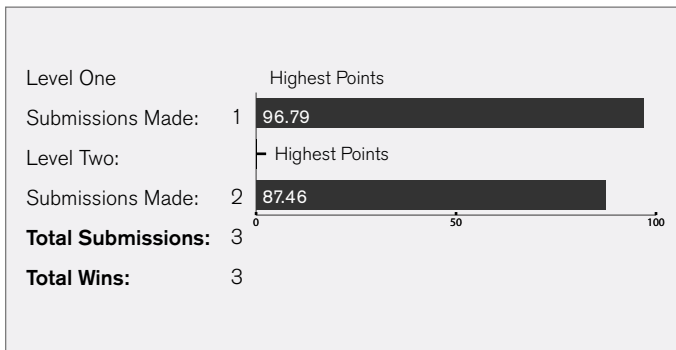
TC In the movie of your life, what song would be playing in the background during the opening scene?

MP Wolfgang Amadeus Mozart - Concerto for Flute and Harp, K. 299; 2nd Movement

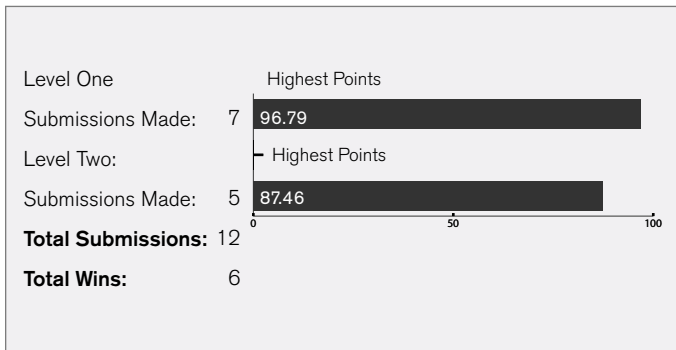
TC What little thing do you do every day that is the secret of your success?

MP I start every day by writing down the tasks I want to complete in that day, and I always write there a little bit more than what I think I am normally capable of doing. In this way, I will always be motivated to get over my limits.

TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



Adrian Nicolae Carcu
Romania

Algorithm Rating: 2232
Design Rating: 1762
Development Rating: 1821
Total TC Earnings: \$22,386

TC What types of companies are you most interested in working for (e.g., size, industry)? Why?

AC Programming/design tools related. Any size. Because creating new technologies at that level affects a lot of people. Being only a user of those tools/languages usually affects only the client you are working for.

TC Describe the greatest challenge you have overcome when developing a piece of software. What was it you were developing?

AC Writing an Object Constraint Language (OCL) compiler for an UML tool from scratch (including lexer, parser, compiler, interpreter, debugger).

TC What are your favorite software

design tools and software development tools?

AC Magicdraw, Eclipse.

TC What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?

AC Definitely something to do with MDA or languages. It will make things easier for the designer/developer (reduce manual work as much as possible).

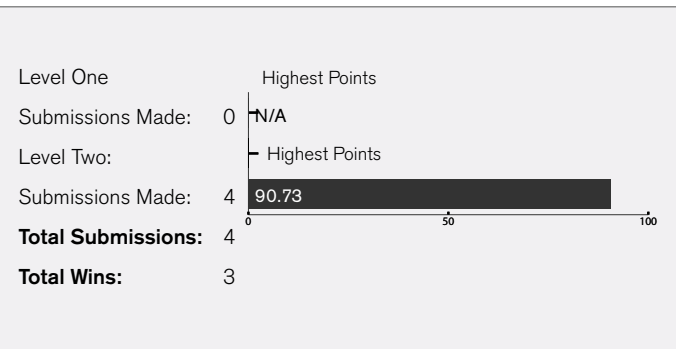
TC In the movie of your life, what song would be playing in the background during the opening scene?

AC "What a Wonderful World" by Louis Armstrong.

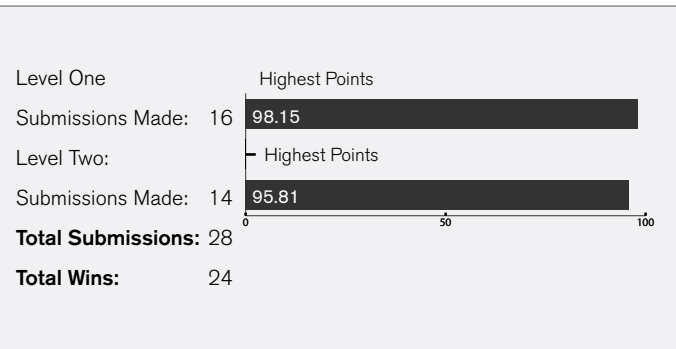
TC What was the coolest poster on your bedroom wall as a kid?

AC Two dogs. Still have it.

TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



Sergey Kalinichenko
United States

Algorithm Rating: 1716
Design Rating: 1640
Development Rating: Not Rated
Total TC Earnings: \$12,920

TC What sort of software do you write? Do you develop utilizing an object oriented or a component based approach? Why?

SK I develop a component-based platform using object-oriented approach. This combination exposes second-order abstractions (components) to developers of business rules. It is these rules that make the application add business value; they can change their rules and get a totally different application, often for a different domain.

TC Describe the greatest challenge you have overcome when developing a piece of software. What was it you were developing?

SK I developed a complex algorithm for evaluating multiple predicates at once, and finding the first one that evaluates to 'true'. If you insure your car with one of the top-ten US insurance companies, chances are that the algorithm I developed is used for rating your policy.

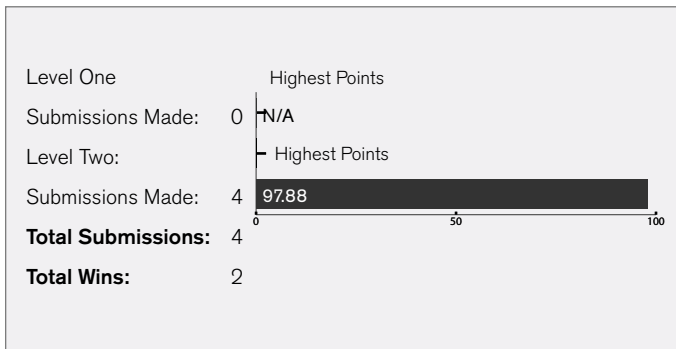
TC What are your favorite software design tools and software development tools?

SK I design on a piece of napkin, and debug problems using my dry marker board. Visual Studio and Eclipse are also good for debugging. Design tools, however, have a long way to go before they could approach the convenience of a piece of napkin.

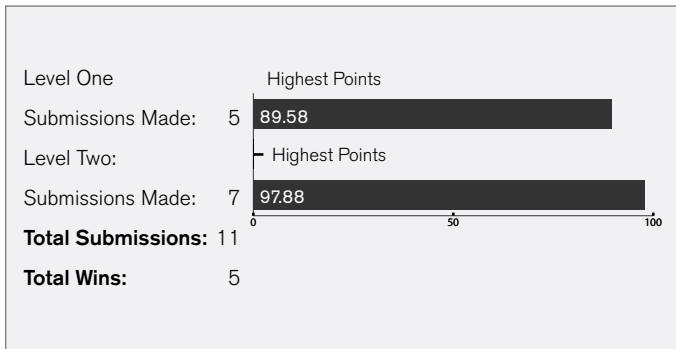
TC What will you do with the money if you win the grand prize in this tournament?

SK I'll get something for my wife and daughter, who missed me while I was working on my designs.

TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



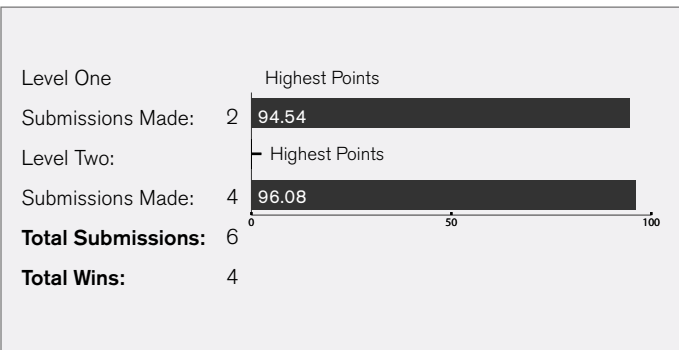


Jin Guan Zhuo
China

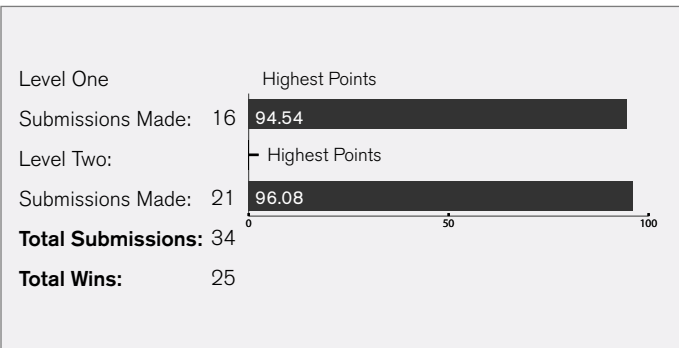
Algorithm Rating: 1425
Design Rating: 1598
Development Rating: 1986
Total TC Earnings: \$18,234

- TC** Describe the greatest challenge you have overcome when developing a piece of software. What was it you were developing?
- JZ** New technology - It will always takes me 1 or 2 weeks to get to know it, which is far from familiar with it.
- TC** What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?
- JZ** Automatic unit-test generator, it will ease the developer's work a lot. Most of my development time is spent on it.
- TC** Which TopCoder member do you most admire and why?
- JZ** Wishingbone, Pops, ThinMan, isv, adic, etc.
- TC** In the movie of your life, what song would be playing in the background during the opening scene?
- JZ** "Country Road" by John Denver
- TC** What little thing do you do every day that is the secret of your success?
- JZ** Run 800 meters before bedtime.
- TC** What will you do with the money if you win the grand prize in this tournament?
- JZ** Send it to my parents.

TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS

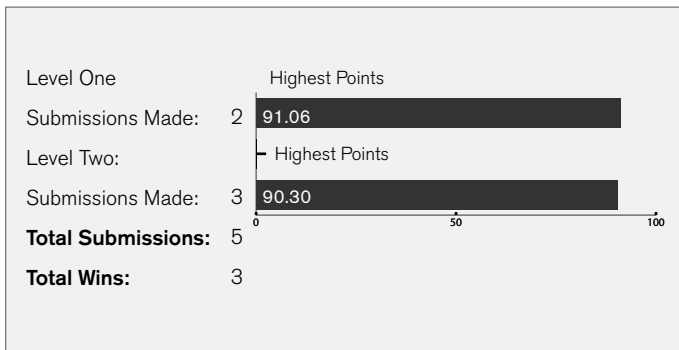


Celsus Kintanar
Philippines

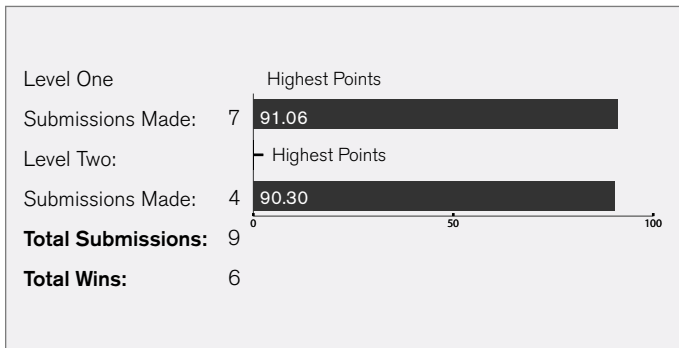
Algorithm Rating: 1199
Design Rating: 1317
Development Rating: 1492
Total TC Earnings: \$3,036

- TC** What types of companies are you most interested in working for (e.g., size, industry)? Why?
- CK** Game development or business logic software both seem good. So long as the team with which I work in is well-encapsulated, the company size should not really matter.
- TC** What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?
- CK** Thin clients, making everyone terminal independent.
- TC** Which TopCoder member do you most admire and why?
- CK** Pops! His designs are very clean and are driven by a unifying concept. He provides excellent support during the development phase, and can very nicely adjust his designs to account for any unforeseen circumstances. I also believe my coding style was partially influenced by his Round Table posts back when I was still new.
- TC** What will you do with the money if you win the grand prize in this tournament?
- CK** After having achieved independence from financial constraints, I would spend the next year attempting the WCG, TCO and ACM.

TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS

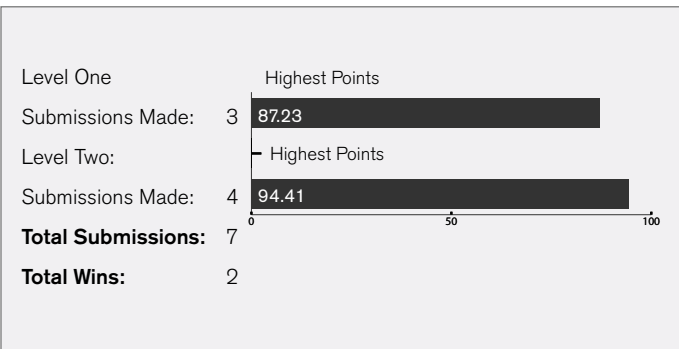


Chip Bradford
United States

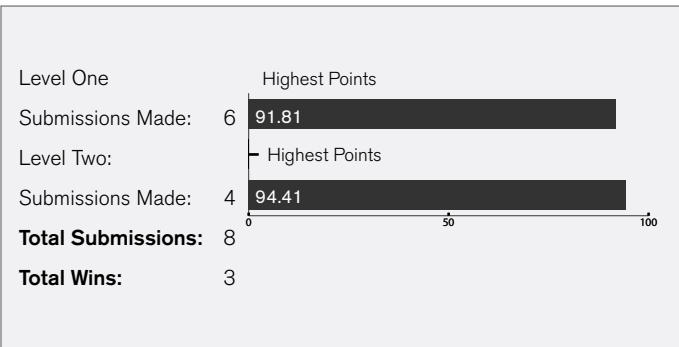
Algorithm Rating: 1539
Design Rating: 1209
Development Rating: 1470
Total TC Earnings: \$3,300

- TC** What types of companies are you most interested in working for (e.g., size, industry)? Why?
- CB** Smaller companies and/or teams within a larger company are nice because they are more personal. Industry doesn't matter as much, as long as the work is challenging and has variety. Working on the bleeding edge of technology is far more rewarding than writing office apps, even if the bleeding edge ends up not panning out as a viable technology.
- TC** What are your favorite software design tools and software development tools?
- CB** Hands down, Microsoft Visual Studio is the best IDE I have ever used.
- TC** What do you think will be the next big tool, technology or paradigm shift to revolutionize the software development industry? How will things change?
- CB** Component-based development will eventually allow software development to become more of a manufacturing industry. If enough high-quality components are available to developers, building new applications will be simply the task of choosing the right pieces and plugging them together.
- TC** In your opinion, who is currently the most influential person in technology?
- CB** Recent events (SpaceShipOne) bring Paul Allen to mind. I've always been a big fan of space exploration and the technological developments that come with the territory. Commercialization of space flight will increase technological advancement in the "final frontier" exponentially, so I applaud him for plunking down the money to help get the ball rolling.

TC004 TOURNAMENT STATISTICS



OVERALL COMPETITION STATISTICS



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Review Board



WishingBone

Jiazhi WU
China

Algorithm Rating: 2629
Design Rating: 1384
Development Rating: 1219
Total TC Earnings: \$6,986



roma

Roman Koshlyak
Ukraine

Algorithm Rating: 1821
Design Rating: Not Rated
Development Rating: 1041
Total Earnings: \$15,537



theCois

Francois Bonin
Ghana

Algorithm Rating: 1354
Design Rating: 1200
Development Rating: 792
Total Earnings: \$398



Tomson

Changxi Zheng
China

Algorithm Rating: 1422
Design Rating: 1537
Development Rating: 806
Total Earnings: \$1,447

"I enjoy all roles in the software process, and reviewer is a role that is somewhat unique to TCS. A reviewer excels by understanding and convincing others, rather than being concerned with themselves. Given the same amount of time involvement, a reviewer usually gets exposed to more projects than a designer or developer does, which is another fact that is appealing to me."

- WishingBone

"I like being a reviewer because the exposure to many problems (the project requirements) and the various solutions people come up with help me broaden my knowledge base and improve my skills."

- theCois

"Well, it's so regretful that I cannot participate in this challenge to compete with the excellent guys from all over the world, since I worked for the sponsor, Microsoft, during the competition. But I eagerly want to learn something from the finalists' submissions, enjoy their creations, get inspiration from theirs, and broaden my horizon. I also hope my review comments and suggestions are useful for the competitors. So it's a pleasure to contribute my energy as a reviewer."

- Tomson

About the Review Board

DESIGN REVIEW BOARD

Highly rated and experienced TopCoder members fill the ranks of the Architecture Design Review Board. These members screen and review all design submissions to ensure the components meet the functional requirements, are documented properly and contain the appropriate sequence, use case and class diagrams. Additionally, the Architecture Design Review Board recommends design enhancements and verifies the design is flexible enough to be reused and customized in the future.

DEVELOPMENT REVIEW BOARD

TopCoder Software utilizes past component development winners and accomplished TopCoder competitors to staff the Development Review Board. These reviewers verify that each development submission meets the required functionality, coding style, adheres to the component design and contains a suitable test suite. Furthermore, to certify the component belongs in the TopCoder catalog, the development review board adds a suite of test cases including stress, accuracy and failure tests to the component.



Solutions

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