IoT Field Engineering Manager at Canonical

Written interview

Job Applicant

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Education

In high school, how did you fare in mathematics and physical sciences? Which were your strongest subjects in the hard sciences, and how did you rank in your class?

I was a top student in mathematics and physical sciences. In high school, I prepared myself for the International Mathematics Olympiad (IMO). We had study groups and the school supported us. In the third and fourth years of high school (equivalent to Graes 11th and 12th in Canada), I started teaching math to younger students to help them prepare for the IMO. I did not make it to the national team but I am very happy with the kind of math I studied at high school. In the university enterance exam, I was the top student in the school and second best in the city. I ranked 42nd nationwide among 300,000 applicants.

In high school, what leadership roles did you take on?

I was part of the leadership team for organizing math classes for students who were interested in the International Mathematics Olympiad. The school gave us permission to have our classes one hour before the regular classes. We were motivated. Some of us passed the first round of nationwide exams but none of us made it to the national team. However, what we started became a movement for our city. A couple of years later, we had students from our city in the national team, a team with the likes of Maryam Mirzakhani.

What courses and university did you choose, and why?

Both of my parents were math teachers at high school. I could choose any university I wanted because of my rank in the nationwide enterance exam. After talking to my parents and older friends, I decided to study Electrical Engineering with a focus on Control Systems. My main interest was math. I also wanted to have better career opportunities. I therefore decided to study control theory and engineering as one of the closes fields to applied mathematics. I also chose the top engineering school in our country. Quite a few of our professors were graduates of MIT, Stanford and other top universities.

How did you rank competitively in university? Which were your strongest courses, and which did you enjoy the most?

I entered Electrical Engineering/Control Systems as the top student nationwide. Staying number one, however, was very difficult as my classmates were the top students from all over the country. I graduated the 3rd student in the Control Systems option. During my undergraduate studies, I really liked

these courses: Electrical Circuits, Signals and Systems, Logic Circuits, Microprocessors, Linear Control Theory, Modern Control, Industrial Control and Nonlinear Control. I was very strong in Microprocessors, Signals and Systems, Linear Control Theory and Nonlinear Control.

In high school and at university, describe any achievements considered exceptional by colleagues and staff.

In general, I was really strong in math and numerical computations. For the nationwide university exam, I studied really hard for a long time and it paid off. In total, after two rounds of exams, I ranked 42nd in 300,000 applicants in the whole country. At university, it was really difficult to impress anyone because the majority of top 100 students in the country were my classmates. Having said that, I was really good with MATLAB programming. I could do almost anything in one line of MATLAB code. I regret it now and I wish I had not used MATLAB to the extent that I did.

Career development

How would you describe your experience as a professional software engineer?

I did my undergraduate studies and Masters in Electrical Engineering. I also did a PhD in Mechanical Engineering.

Describe your skill in your preferred development language, and how you attained it.

What are your strengths as a software engineer?

What is your proudest success as an engineering manager, or leader?

Outline the role of an engineering manager in shaping a high functioning team.

Outline your experience working closely with customers.

Experience

Describe your level of experience as a user & developer on Linux.

Describe your level of experience in Python, and how you have attained it.

Describe your Linux kernel experience.

Describe your experience with container technology (Docker, LXD, Kubernetes, etc)

Describe your experience of Linux boot loaders (uboot, littlekernel, grub)

Describe your experience of embedded Linux development.

Describe your experience of IoT device design and development, including enablement, connectivity, and graphics.

How do you address software performance in your software engineering practice?

How do you prefer to drive documentation for your products?

How do you think about quality in your software products?

Describe a case where it was very difficult to test code you were writing, but you found a reliable way to do it.

If available, provide links to your public source code repositories

What would you like to achieve in career and skills development?

Context

Are you involved in open source software?

Describe any significant contributions to open source (with links where possible)

What do you think are the key ingredients of a successful open source project?