

Engineering Careers Interview

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Professional Background

- Interviewee name: Dr. Ambarish Mukherjee
- Degree: PE (Professional Engineer) and Doctorate in Civil and Transportation Engineering
- Place of Employment: LSA – An employee owned transportation/environmental consultancy firm
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Professional Interview

1. Please describe your engineering field.
 - a. A branch of civil engineering. I specialize in Transportation engineering. We deal with anything related to traffic and transportation. So we are looking at highways, freeways, signals, design of roadways, how to design ramps, intersections. Also looking at integration of land use and transportation – so how does land use affect transportation. So if I have a subdivision where 500 homes will be built, what is the corresponding roadways I will need
2. What is your current job title?
 - a. Principle – Partner in the firms
3. Please describe your particular job and duties.
 - a. Primary goal is to manage projects. I have a group working with me, whom I supervise, I have a clientel for whom we are doing this work – both from Public industry (CalTrans, city, county), and private (developers). I have projects throughout California, and even in other states, where we providing the same services
4. What is your average work schedule?
 - a. Varies – We are a consulting firm, so we are providing solutions to our clients. So when we have a lot of deadlines, we may have to work more than an 8 hour work day, but at other times, when things are not that busy, it may be 6-7. I'd say between 7-10 hour days on average.
5. Starting after High School, please describe your education background chronologically
 - a. Undergrad – IIT Kharapur in Architecture.
 - b. Grad School – University of Texas Arlington, Urban Planning, specialized in Transportation in Masters.
 - c. Working as a transportation planner, ended up getting Professional Engineering liscence from state of California.
 - d. Hybrid of Planner and Engineer, fits perfectly in this kind of work need both perspective.
6. If you had to do it over, related to your career or education, would you do anything differently?
 - a. Only thing I would have liked to do is continue with architecture. I loved architecture a lot, that's all I would have done differently, but I'm also very happy with what I'm doing now.
7. What advice would you give to someone interested in pursuing a similar career path?
 - a. My biggest advice, which I learned the hard way, as you are going through school and college, keep your eyes open. There is so much out there in the world that keeps changing and happening. Just don't get stuck into academics: you have multiple ways you can pursue your career, especially

something that would interest you. A lot of universities now have hybrid programs – major in something, minor in something else. I think that’s a good approach, because that gives you a good perspective on what’s going on in the bigger scheme of things. As an example, part of what we do in my job is travel demand modelling. That’s a way that you forecast traffic in future scenarios. The model by itself is pretty complex, it requires background in both Computer Science and Civil Engineering. You can’t just be a civil engineer or just a coding person, you need the best of both worlds to create this tool, and that is becoming more and more relevant. You need people with interdisciplinary skills, rather than just one subject. In industry, that is in very high demand, so that’s where I’d say, as growing students, you should keep your eyes open and look for all the career paths and fields that might interest you.

Personal Reflection

1. What surprised you the most about the interview?
 - a. I wasn’t aware that he worked for a fully employee-owned firm. I think its really interesting how different workplaces can be organized more democratically, counter to the traditional “capitalist” hierarchy where CEOs have essentially authoritarian and non-democratic control.
2. What was the most important piece of information you learned?
 - a. I think the advice he gave, about keeping your eyes open to opportunities, being open to exploring multiple fields, was most important. The example of travel demand modelling requiring both civil engineering and coding background particularly resonated with me, because I find the ways in which programming can be used to simulate real-world phenomenon, both for artistic purposes but also pragmatic ones fascinating.
3. How has this interview influenced your feelings about your future career?
 - a. I’m looking more favorably to going into industry. I used to be pretty set on going into academia, but this interview made industry look like a more compelling choice, and am planning to “keep my eyes open”.