

Title : Who is an engineer?

Who is an engineer? According to Wikipedia, “An engineer is a professional practitioner of engineering, concerned with applying scientific knowledge, mathematics and ingenuity to develop solutions for technical and practical problems.” The definition is rather straightforward but to me, an engineer carries a greater value than just a profession in mankind society. It is hard to be conveyed fully by words, so let me express four stories in my life that had driven me to rethink the meaning being an engineer.

1. Hunger for Knowledge

Due to my interests in science and technology, I had chosen an engineering course in college. Being an engineering graduate, I started my first job as a trainee engineer in a local power generation company. It was exciting at first when new knowledge obtained every day. But as time passed, experience became saturated, which led me to a question, “Have I learned enough as an engineer?” I realized the answer soon after I was involved in a research project, which had urged me to further my studies abroad. It had broadened my horizon on the vast knowledge in the field of engineering. Stay hungry for knowledge is the fundamental characteristic of an engineer to upkeep with the rapid technology advancements.

2. Innovative and Creativity

The word engineer is derived from the Latin root *ingenerare*, which means “to create”. In my PhD research working on a new manufacturing cell with human-robot collaboration, I recognized how important to “think out of the box”. The motivation of the project was to combine the flexibility of skillful operator and the efficiency of intelligent robot to yield a highly flexible yet efficient production system. Even though it was an engineering development, out of my surprise, the knowledge in making presentation slides was required in designing part of the system. Solving an engineering problem is never a single discipline matter, and being an engineer is knowing what knowledge to be applied.

3. Making Own Path

The feeling of getting lost in seeking a job upon graduation or being obstructed climbing the corporate stairs, is a norm especially in the field of engineering. This is because having an engineering background enables us a wide spectrum of career potentials and career paths. I was a field engineer at first, lecturer in a university later, and now working as a researcher. But in common, my jobs always require me to apply scientific knowledge into solving engineering problems, and this is my passion in my career. As an engineer, it is not about finding a career path that suits you but rather making a path for yourself, believing in your own passion. A good saying by Steve Jobs, “Your work is going to fill a large part of your life, and the only way to be truly satisfied is to do what you believe is great work, and the only way to do great work is to love what you do. If you haven't found it yet, keep looking, and don't settle.”

4. Towards Humanity

Early of the year, I had personally witnessed a historical tragic event of mankind, the Great East Japan Earthquake. Along with the Fukushima nuclear disaster, in the tsunami victims rescue effort, the battling of the nuclear radiation, and the rebuilding, I deeply felt the significant of engineering impacts towards the society. Aligned with the mission statement of **IEEE**, “to foster technological innovation and excellence for the benefit of humanity,” I truly believe that being an engineer, the mind and heart of work should always being aligned towards greater humanity. That is what makes me believe in the meaning of my work and continue to improve as an engineer.