Career Episode Piece 1: Being a professional

Student ID: u7351505, Name: Yifan Luo, Submission Date: 2022-08-19

# Introduction and overview

What does being professional mean? Specifically, what does being a professional mean to ourselves? According to the Cambridge dictionary, the word professional relates to work, which needs special training or education. In this career episode, the definition of being professional will be expanded, refined, and argued within a discussion regarding the computer science field. At the same time, we will see how the standards and guidelines influence individual decisions and actions.

# What is being professional and how to be a professional?

Dale Atkins, an avalanche and mountain rescue expert, said in a TED Talk [1] that the definitions of being professional can be explained in three different ways: Generally, professional pertains to a profession. From an economic and sociological point of view, a professional is someone who is paid for their occupation. Personally, a professional is someone who has achieved a high level of knowledge and skills.

Along with the definitions above, we can summarize them into two equally important levels: professional in macro and micro. Macro professional consists of variant aspects of society. For example, qualification certificates as a condition or proof of identity to practice a profession, and they can be classified as occupation credentials and licenses [2], such as the license of teaching and accountancy. The qualification is an access control imposed by the government for certain professional and technical work. Being professionals in these fields usually means carrying greater responsibility, social generality and strong public interest. Most of the potential candidates have to be tested regularly and inspected by relevant departments according to laws in different countries.

In most cases, professional in micro means being a professional in people’s work, which implies there are various ways to define a professional according to their occupation. Overall, focusing is the only way to be professional. To be called professional, one must be focused. The focus here has two requirements. One is to have in-depth research of the working or studying experience, and the other is to be patient and persistent. Secondly, summarizing and improving. Failure is the mother of success. Only through self-examination and introspection, people can improve their skills and abilities. The last but not least, taking positive action. After one has rich experience and thinking in their work field, it is time to take one’s first step on actions to explore further.

# What is the computer science standard and how does it influence?

Standards and guidelines are extensively implemented in almost all areas, such as production, consumption, human life, and economic and technological activities. They reveal the objectiveness of the standardization process and strengthen the connection of social activities. Most importantly, they provide theories and methods for achieving the maximum social and economic benefits. As one popular research area, computer science consists of the study of computer system architecture, software, artificial intelligence and computing itself. In this article, computer science standards will be separated into two hierarchical layers: industry regulations and personal guidelines.

Industry regulations concentrate on the organization of technology companies and other aspects, such as teaching and researching. For example, The Computer Science Teachers Association (CSTA) creates a community for K-12 computer science education. Its computer science standards [3] list study details for different levels of grades and teaching. In technology departments such as Google AI, the company also set principles not only for their AI research [4] but also for public policy and interest [5]. In general, the companies’ standards include social benefits, programming safety and high quality of work and research.

To some extent, personal standards are guided by industry regulations. For example, data privacy issues are widely proposed in recent years. In one of the author’s projects, a vocal dataset contains only all kinds of voices, without any data contributors’ information, such as name, age and address. Usually, companies are responding to regulate employees under industry regulations, and individuals should also be concerned with privacy and ethical problems during their work. Generally, programming documentation is also a kind of technical standard. In the author’s project, the software scikit-learn [6] is used for modelling data and predictions. During programming, the code and programs are strictly standardized by the guidelines.

# Summary and looking forward

This career episode first explores the definitions of being professional, which consists of professional in macro and micro. Several examples are given in both aspects. The second session explains standards and guidelines, especially in the computer science field. Industry standards and personal standards are well discussed in this section. In the following career episodes, more details related to the project will be provided. The content will include more connections between study experience and course materials.

# References

1. [Being A Professional: Dale Atkins at TEDxYouth@EHS - YouTube](https://www.youtube.com/watch?v=sLv7sdGJWPI)
2. [Qualification Certificate - Baidu](https://baike.baidu.com/item/%E8%B5%84%E6%A0%BC%E8%AF%81%E4%B9%A6/4579857?fr=aladdin)
3. [CSTA Standards - CSTA](https://csteachers.org/page/standards/)
4. [Google AI Principles - Google](https://ai.google/principles/)
5. [Google AI Public Policy Perspectives - Google](https://ai.google/responsibilities/public-policy-perspectives/)
6. [scikit-learn API - scikit-learn](https://scikit-learn.org/stable/modules/classes.html)