**Professional Practice Assignment One**

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**Questions:**

1. Computer Engineering and Mathematics-Computer Science

2. What does it mean to you to be an Electrical/Computer Engineer?

To be a computer engineer is my hobby and seeking a livelihood. Especially, my interest in Computer Engineering is High Performance Computer Architecture.

3. What experiences have contributed to this understanding of what it means to be an Electrical/Computer Engineer?

Several experiences have contributed to my understanding of Computer Engineering. They are leading Purdue ACCESS (Analysis of Code on Cloud as an Educational Service to Students) research team, serving as an undergraduate research assistant in Both DURI and SURF.

In sophomore year, I started to serve as undergraduate research assistance and found that my life goal is to excel at Computer algorithms. So, I decided to get dual majors in Computer Engineering and MACS (Mathematics with Computer Science) in four years, which gives me strong knowledge of computer architecture and computational method and algorithms.

The leadership experience in the Purdue ACCESS research team also supports me to get master’s degree successfully. I lead a nine-person research team supervised by Prof. Yung-Hsiang Lu. We designed a system can analyze students’ programs and provides insightful information about their code. This system was used by Purdue undergraduate C programming and Data Structure courses. Also, according to the data collected by this system, I submitted the paper *Online Programming System for Code Analysis and Activity Tracking* to Special Interest Group on Computer Science Education Conference as the first author. Working as a lead in a team, I found that what a computer engineer needs to get used to is modularization and accuracy. Modularization indicates that your work can be integrated into the whole system without any changes. Accuracy means every body has to take responsibility that his/her work will be fully functional.

For other research experiences, I got accepted in both DURI (Discovery Park Undergraduate Research Internship) and SURF (Summer Undergraduate Research Fellowships) program. For DURI program, because there are so many diabetic retinopathy patients in the world lacking an effective way to diagnose them precisely, I worked with Prof. Raji Sundararajan to write a MATLAB program to diagnose diabetic retinopathy images. Based on the results, we developed an Android App which can take and diagnose diabetic retinopathy images and gave the feedback to the patients. This experience helps me to understand that the computer engineering is a powerful tool, which can fit into every aspects of the society to develop the civilization.

For SURF, I collaborated with Prof. Guang Lin as well as Dr. Georgios Karagiannis, which performs model selection by using Gaussian Mixture Models and Parallel Computing. This work is funded by the National Science Foundation. Based on this work, I have submitted a paper *Model Selection Using Gaussian Mixture Models and Parallel Computing* to Journal of Purdue Undergraduate Research and published a nanoHUB tool both as the first author. After this experience, I realized that computer engineering attached significantly to the current development hotspot like Deep Learning.

To be honest, right now I find Computer Engineering is so important that every part of the human activities cannot perform without it.