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Professional Goals & IEEE Societies

I am currently pursuing a Bachelors degree in Electrical Engineering and a Bachelors degree in Computer Engineering. I have realized that I am more interested in Computer Engineering, and I hope to eventually get my Masters Degree in a related field. I have been seriously considering applying to UC Irvine's new one year Masters Program for Embedded and Cyber Physical Systems Engineering. Pursuing this degree would bind me to becoming an IoT Firmware Engineer, which in my opinion sounds great. I have really enjoyed all the Embedded Systems classes I have taken in college and I think Firmware Engineering would make me the happiest as a career choice. Even if I don't end up pursuing my masters I do still want to become a Firmware Engineer for some company. I am not particular on where I want to work, but I think working for a company like Tesla would be awesome because I want to be able to put my name on the first fully autonomous vehicle. Nothing is ever set in stone and I may have a change in heart in the next year, but as of right now this is basically where I hope my professional life goes.

IEEE Vehicular Technology Society

Since I have been a young kid I have always liked working on cars and bikes. In high school I took two years of auto-shop and I grew up racing motorcycles my entire life, so it is pretty safe to say that I am a vehicle enthusiast. I think vehicle technology is very interesting and is going to dramatically change the way our public transportation system operates. Autonomous vehicles are being developed as I'm typing, and I would happily join a team to help build one of these autonomous vehicles after I graduate.

The engineering of autonomous vehicles requires some very intelligent cyber physical systems. I have really enjoyed my embedded systems courses here at Chico State, and I truly believe I will become a firmware engineer after I graduate. The vehicular technology society seems like a society that is going to be focused on developing and publishing firmware intensive products that contribute to the evolving world of transportation.

The IEEE page says that the VTS, "Focuses are on mobile and portable communications services; vehicular electro-technology, automotive industry equipment and systems; and traction power, signals communications, and control systems." I honestly can't think of a class I have taken from either of my majors that doesn't fall into one of these categories. My power classes support traction power the development of electric machines. My programming and embedded systems courses support the automotive industry equipment. My circuits and electronic courses support just about every category listed.

As stated in the last paragraph I have taken a bunch of classes that already support the VTS's supported technologies. However, I have been thinking about applying to grad school to pursue a Masters in Embedded and Cyber Physical

Systems Engineering. So I would be taking courses to further develop my embedded development skills, and I would be learning about sensor networks and other technology required to make vehicles more autonomous.

IEEE Computer Society

The Computer Society interests me because I am majoring in Computer Engineering, and throughout the last four years of my college courses at Chico State I have fallen in love with computers. I enjoy basically all types of programming, digital logic and computer architecture, as well as computer networks. I am also interested in Artificial Intelligence and I hope to learn more about the topics this society covers.

When I graduate I have zero doubt that I am going to be doing some sort of programming for some company. Whether that be HDL development, Embedded Development, Web Development, or Application Development, at the end of the day I am still going to be behind a computer screen writing code. After looking through the list of societies this seems likely to be a programmers first choice. The Computer Society also covers many fields that I want to learn more about.

I have technically taken four computer hardware classes including EECE 144, EECE 320, EECE 343, and EECE 425. I have taken a ton of software classes including CSCI 111, CSCI 211, CSCI 311, CSCI 430, EECE 237, EECE 437, and EECE 344. I have also done application development the last two summers at my internships developing both java and C++ code.

This semester I am taking CSCI 446, which is Computer Networks. It is only the second week but I already enjoy the class and I'm hoping I can take Advanced Computer Networks next semester. I also might take Artificial Intelligence next semester if I can squeeze it into my schedule because I have heard it is a great course and AI is a scary but interesting reality the world is starting to face.

IEEE Internet of Things Community

Though the IoT Community is not actually listed as a society I had to include it as one of my interested societies because it should be a society. I have been interested in how devices communicate since before I was in college. The Internet of Things is the idea that any physical object can be connected to some master controller like your phone or PC, giving a user control over their devices virtually anywhere. Besides the simple fact that this is the coolest and most convenient idea ever, it introduces many challenges that I find very interesting. The biggest is security because you can't have the possibility of devices like your garage door or gun safe being compromised. Another big one is the networking and communication required to reliably support all these devices. The list goes on and on, but I think the Internet of Things is awesome, and that is why I am developing my senior project to have IoT capability.

As stated in the last two write ups I want to be a Firmware Engineer doing embedded development when I graduate. The present and future of consumer and commercial products is being IoT capable. People want to be able to control their devices from anywhere, and if you want to be developing these devices you need to

know about the new technologies and studies in this field. Following the IoT Community will provide me with that information.

I honestly haven't taken any courses that covered any aspect of the Internet of Things but I am currently taking Computer Networks, which covers a lot of necessary points to understand how the Internet of Things could work.

If I pursue the Masters Degree of Embedded and Cyber Physical Systems I will basically be considered an IoT Engineer. The program description explains that after completion you should fully understand how large-scale sensor networks work, as well as all the software to run these networks. From my understanding that is basically IoT in a nutshell.