1. My favorite project in school was when I had to create an AI mancala-playing agent and it was pitted against all the others in my class in a single elimination style tournament! It utilized A* with alpha-beta pruning but we had to implement our own heuristics on how to play the game with the best strategy in order to beat our classmates. It was a very satisfying culmination of a very interesting class where I felt like I had to simultaneously learn the basics of AI agents but also a brand new programming language in LISP.

2. I don't have any specific experience with micro controllers but I did a little research into niche uses so as to find one I think would be my favorite or the most intriguing. I read an interesting article on the ATTiny and how they are best used for low-power applications and are able to run for long periods of time on just something like a AA battery. The other thing I found interesting was their use in hardening systems against radioactivity and other damage.

3. I have not, I have no direct firmware experience but would love the opportunity to learn. I find making web API's (RESTful or otherwise) and working with SQL horrible and boring and would like to work on something with real-world impact. Some of my favorite classes in school were about low-level programming, AI, and computer architecture (we did MIPS) and I think my interests align with a job like this very well.

4. My first thoughts are to check the power supply and that all the soldering and wires are still good, no burnt areas from being shorted out etc. Then, based on issues that I have had with individual computers and laptops, I would try checking to see if the chip is overheating and maybe then re-flash the BIOS.

5. The categories that apply to me the most are that I am fluent in C (I look down on no one though), and that I am excited by rapid iteration over a perfect plan, lets see some things get done! I have a strong science based background stemming from an original degree in physics, and so am very familiar with the scientific method and forming and testing hypotheses. Although I have no direct EE experience, I believe this background would help me catch on quickly. I hope that this document shows some of my skills as an effective communicator as well, which I have honed through many years of group projects during both my undergraduate degrees.