Lucas Zhou - Personal Statement

I am Lucas Zhou, a first-year Electrical Engineering Major at UCSB looking to apply to Apple as a hardware engineer intern. My passion stems from thinking through and solving difficult problems, which makes me detail-oriented. I am not afraid to solve challenging problems, even if the answer may be obscure to me at first glance. For example, I had no idea what I was going to do when first coding a SPICE model for Accusilicon, a computer chip design company, to use in circuit design. To generate that model, I created several graphs of polynomials using Python code until one graph aligned almost exactly with the data, which was difficult. Initially, I just searched ChatGPT and watched YouTube videos to understand the basic concepts of SPICE models and how to write code for curve-fitting. Once that was done, I thought about how what I researched actually applies to solving the problem of the error in the polynomial produced by the original SPICE model. After multiple attempts at coding, I noticed that the "perfect" number for the order had to be a 21st order polynomial. From doing the SPICE model project for my internship at Accusilicon, I learned to experiment with solutions that may or may not work. The best solution usually comes after multiple trials and errors.

While I am working towards solutions, I am vigilant about every mistake and try to resolve them as they come up. When I coded my Python program for curve-fitting, I only added more code and moved on to the next step after the previous step had no bugs. I also checked to make sure my code produces the expected result. If something goes wrong, then I would figure out why the mistake happened, whether that be a logical or syntax error. One mistake in code could cause my entire program to not work, and, in the worst case, the bug may be so small that I don't even notice it. It's especially important to notice details that could go wrong and try to prevent mistakes before they may happen.

Outside of my work experience, I enjoy solving challenging physics problems that seem obscure at first glance. When I encounter a challenging problem, I don't give up. Instead, I first think about the concepts I learned and try to apply them. Sometimes, I may not know the situation behind a particular problem. In fact, most of the challenging word problems I solve are about situations that I may not have experienced before. So, it's hard to apply my knowledge to that particular situation. But, I'm not afraid to search Google or the Internet for answers as to how something works in a physics problem. I've realized that not knowing about something motivates me to learn more. This mindset will help me in the future, when I may work on developing iPhones, iPads, and computers, even if I don't know how they work initially. Additionally, I feel accomplished after finally solving a difficult problem, no matter how long it may take me.

I am willing to bring these strengths to any future space technology projects at Apple. Thank you for considering my application.