Personal Statement

Timmy Boyce

University of South Carolina

I took an introductory computer science course in my freshman year for a gen-ed requirement but was confident I'd hate it. I was an environmental studies major, and computer science seemed as far from that as you could get. Every class, I expected the wave of boredom and dread I had been promised by other CS students to hit me. And every class I was disappointed, as I was fascinated by every word coming from my professor's mouth and by every line of code we wrote. I still didn't believe it, thinking it was just the intro class and there was no way computer science could ever really be 'fun.' But I took the second level CS course just to be sure and was disappointed once again upon loving every second. When this happened a third time with the third course, I had to accept that CS was amazing. I found myself regularly disappointed upon completing homework assignments and projects because it meant I had to wait until the next assignment was released to do more CS work. As far as my specific CS skills and knowledge, there are certainly areas where I excel, but more the idea that I genuinely love every bit of challenge I find has convinced me that I can succeed in any CS-related field.

I have mostly expanded my skills through classes taught at my undergrad institution, but I have also attempted to go well beyond this and have learned lots more on my own. After completing my third ever CS course, I wrote an app that solves an online puzzle game in my spare time for which I had to learn the Swing library for Java from scratch to design my GUI (all code and a downloadable installer for this is available on my GitHub, @Timmy387). I took another class where we remotely logged into raspberry pi's and wrote and ran armv8 assembly

code on them, but my own laptop's intel processor could only run x86 assembly. I enjoyed this assembly programming so much that I retaught myself everything we learned in class but in x86 so that I could continue writing assembly code for fun on my own machine outside of class. I also did an independent project where I wrote an app to assist with an environmental studies professor's research, but I decided I didn't want to just use a language I already knew since that would be too simple and not as fun so I read The Rust Programming Language book in my spare time and wrote the app using Rust which I had never used beforehand. In all, though the majority of my learning has come from formal education, I have had a constant desire to learn as much more as I had time for.

I worked as a preschool teacher throughout my college years. I did not use skills directly related to computer science there, of course, but I learned a vast amount about problem-solving under pressure and about patience and kindness in the face of stress. Much like when working in CS, I was regularly faced with problems I had never encountered and had to come up with satisfactory and creative solutions regardless, which I learned to do quite well.

I double majored in Environmental Science in undergrad, and I love all to do with that world. Any work that involves computer science, which I love for day-to-day experiences, that also positively affects the environment, such as data analysis of environmental trends or some similar idea, would be an ideal career path. This is what my senior year independent project was based around.

In my first semester of freshman year, I was quite unfocused on school and was very focused on my sport and fell behind in several classes. I was ill-prepared for the college transition and my grades left something to be desired, but from there I took steadily more interesting classes and scored steadily higher in them nearly every semester from there on.

I am largely a very privileged person in that my family has been able to support me and that I face few social barriers due to my race, gender, etc. However, one large struggle I have faced came during my Track and Field career – a two and a half year long injury that spanned multiple surgeries. I had multiple bone spurs and chronic tendonitis all in my right ankle, and overcoming that proved an immense struggle, particularly mentally. I genuinely believe this improved me as a person overall, however. Over a year into my injury, I was voted to be our team captain, which to me meant I had improved myself sufficiently, beyond just my fitness, that people trusted my leadership even if I literally couldn't run.

Computer science is a complicated field to work within, regardless of which part of it you focus on. Yet I have no doubt whatsoever I can succeed in any of these subfields for one main reason, which is my undying curiosity. I haven't ever studied for a CS class for the reason that I worried I'd fail a test, or because I wanted to make more money in the future, but rather only because I was so excited to learn more and delve deeper and become more versed in the topic at hand that I couldn't help but spend hours looking at notes and practicing code and writing out diagrams and so on.

As described above, I am incredibly curious and passionate about any topic concerning CS. In undergrad, I routinely found myself being asked by classmates outside of class to reexplain topics from class to them in different terms when things got confusing, because they knew I'd do so with enthusiasm, and I'd keep at it until I was sure they could fully understand. They knew I'd be the one who had already spent the time going over any topic to where I knew every detail and could explain it ten different ways. Who better to have as a student than someone who is already insanely curious about everything you might teach?

Personal Statement

Timmy Boyce

Syracuse University

I am very interested in any topic relating to computer science, but what I find most interesting is low-level engineering. In undergrad, I took a class where we remotely logged into raspberry pi's and wrote and ran armv8 assembly code on them, but my own laptop's intel processor could only run x86 assembly. I enjoyed this assembly programming so much that I retaught myself everything we learned in class but in x86 so that I could continue writing assembly code for fun on my own machine outside of class. I also did an independent project where I wrote an app to assist with an environmental studies professor's research, but I decided I didn't want to just use a language I already knew since that would be too simple and not as fun so I read The Rust Programming Language book in my spare time and wrote the app using Rust which I had never used beforehand. In all, I have had an insatiable curiosity for how things work under the hood and continuing to explore the world of computers in graduate school seems the best way to find out even more.

Syracuse is an excellent university to explore these interests for myriad reasons, including it being an R1 research institution and having a dedicated computer engineering program. The Syracuse University Center for Advanced Semiconductor Manufacturing is also a fascinating idea that I'd love to find an opportunity to become involved with and I am very curious to see how that comes to fruition.

I double majored in Environmental Science in undergrad, and I love all to do with that world. Any work that involves computer science, which I love for the day-to-day experience of

working out tricky problems, and work that also positively affects the environment, such as data analysis of environmental trends or some similar idea, would be an ideal career path. This is what my senior year independent project was based around. I'd like to discover more potential paths to work in both of these fields and a location such as Northwestern seems perfect for this goal.