To Whom it May Concern,

As a Computer Science undergraduate student with 5 years of experience working on robotics software teams, I would like to apply for the Summer 2020 Software Engineer Internship you currently have available.

In Summer of 2019 I had the opportunity to intern at NASA. I was a part of the robotics academy internship program that they have. This program allowed me to work alongside full-time robotics engineers at NASA working on new rovers. I chose to work on a smaller rover project because I would be allowed greater ownership over the project. As part of this project I helped designed to control system for a small moon rover. I programmed and tested the controls on a prototype moon rover with the control system I helped design.

Through my course work at the University of Texas at Dallas, I have gained in-depth familiarity with Java, C++, and SPIM assembly code. I currently have an overall GPA of 3.981, with an average of 4.0 in major specific coursework. Through several projects, I have learned much more in depth how data structures in Java and C++ work. In my SPIM assembly projects I have demonstrated knowledge of computers at a deeper level.

I gained experience working on software in a team centered environment while I was involved in a FIRST Robotics Competition Team (FRC) in high school. I adapted my current knowledge of programming Java into a new environment of microcontrollers. I utilized different control algorithms to smoothly operate robots, most notable was a spline curve path generator used to control robot movement. I integrated different sensors in various robot mechanisms used to give feedback and error correct the robot. Over four years on my same robotics team I built up the team’s library of code. Previous team programmers had not properly documented and saved their code for reuse, and I was able to lead my team in using industry version control tools such as Git and GitHub.

Through independent study I have learned Python and how to use API’s. I created a python script designed to scrape JSON data from an API to help scout other FRC teams. This script compiled the data into an easily viewable .csv file, which allowed my team to have the best possible data about our competitors and teammates while competing. Another Python project that I worked on individually was a robot simulation game. I was able to create a simulation of a holonomic robot drive train as a proof of concept for my FRC team. We were trying to decide what robot drive train to build, and the simulation was used to help with that decision.

I would appreciate the opportunity to interview for your Software Engineer Internship. Please contact me at your pleasure to set up an interview.

Sincerely,

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