Jacob Knaup

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March 18, 2017

*Employer Address*

Dear Hiring Professionals:

I am a Robotics Engineering student at Arizona State University interested in simulating and programming robotic systems, especially those utilized by the aerospace and national defense industries. As such, I am particularly interested in working for your XYZ Group to develop state-of-the-art sensing solutions and 3D reconstruction algorithms. My diverse experience simulating dynamic systems, communicating with teams and individuals both verbally and in writing, and programming embedded systems will make me a valuable addition to your team. I am eager to gain more experience developing solutions with Trimble to solve the toughest challenges relating to programming, modeling, and testing of robotic systems and look forward to speaking with you about your internship opening.

I have unique experience communicating in an academic environment uncommon for engineering students. I work as a Supplemental Instruction (SI) Leader for ASU’s University Academic Success Programs and as a writing tutor as a member of the Honors Writing Colloquium. As a SI leader, my job is to lead regular calculus review sessions. This entails explaining mathematical concepts and walking students through the processes for solving calculus problems. As a writing tutor, I help students to improve the arguments, content, and organization of their course papers. Both positions require clear communication in a variety of settings and provide a regular opportunity to further develop my skills.

I have a passion for simulating robotic systems and it has become the main focus of my ongoing academic research in ASU’s Integrated Design, Engineering, and Analysis Lab. I am currently working on a project to design a low-cost robot capable of dynamic, terrestrial locomotion. As part of this project, I am comparing the fidelity of an analytical model created in Python with a computational model created in the game engine Unity 3D. I have run simulations with both models to determine the optimal leg characteristics, and recently completed manufacturing and testing those leg designs. I am currently in the process of analyzing the experimental results using Python, so they may be compared with the theoretical results from the two models. Thanks to this experience, I will enter your division with valuable experience in simulating and visualizing robotic systems and I am very interested in learning more about your work with SLAM to create virtual reality visualizations.

I am available starting the second week of May through the third week of August this summer. I am happy to relocate to Alpharetta, GA for the summer. Early afternoons Monday through Friday are the best times to contact me. Thank you for your consideration.

Sincerely,

Jacob Knaup