**Jacob Knaup**

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**Objective**

I am a driven and innovative Robotics Engineering student with research and analysis experience seeking an internship in mechatronic systems.

**Education**

BSE, Engineering Robotics (Honors) *Expected: May 2019*

Arizona State University *Cumulative GPA: 4.0*

**Work Experience**

ASU Integrated Design, Engineering, & Analysis Lab *December 2016-Present*

* Write and test real-time robot position and force control code in C, using version control
* Collect and analyze data and model dynamic physical systems using Python
* Communicate research progress and goals to faculty, funders, and fellow researchers

ASU University Academic Success Programs *January 2016-Present*

* Independently develop calculus and physics review material using Word and PowerPoint
* Schedule and lead Supplemental Instruction review sessions in calculus and physics

STAX 3D Printing, LLC *February 2016-February 2017*

* Work with R&D team to develop educational STEM products, workshops, and materials
* Communicate 3D printing services to potential clients and provide recommendations

**Academic Projects**

Embedded Systems Design Project *Fall 2017*

* Scope product requirements and deliver hardware/software product accordingly
* Design and build electrical system including sensors, actuators, and a microcontroller
* Program microcontroller in C following software planned in a state chart
* Communicate project requirements, features, and technical design during design review

Robotic Systems Pick and Place Manipulator *Fall 2017*

* Write Python script to locate object using OpenCV and communicate location over UART
* Program robotic arm to move to locations using inverse kinematics

**Volunteer Service & Extracurriculars**

Mentor of Campo Verde High School’s Robotics team

* Suggest design changes, provide feedback, and assist in debugging code
* Volunteer at local competitions as referee and robot inspector

Barrett Honors Writing Colloquium

* Tutor students in writing using Socratic questioning

**Technical Skills**

CAD (Autodesk & Solidworks), Programming (C, Python, MATLAB), PowerPoint, Word, Excel