**Jacob Knaup**

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**Objective**

I am a driven Robotics Engineering student with experience programming robots and communicating professionally seeking an internship in automation and controls

**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*

* Design and manufacture robotic mechanisms using Solidworks and CAM software
* Program robot position, force, and impedance control loops in C
* Collect and analyze data using Python and Excel

ASU University Academic Success Programs *January 2016-Present*

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

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*

* Design electrical circuits including sensors, actuators, and a microcontroller
* Program microcontroller in C following software planned in a state chart

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

Design of Electrical Systems Metal Detector *Fall 2017*

* Design and simulate metal detector balance and amplification networks using Multisim
* Calibrate and test circuits using benchtop oscilloscope, power supply, and multimeter

**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