**Jacob Knaup**

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**Objective**

I am an innovative Robotics Engineering student with broad experience in research involving electrical, mechanical, and software systems, seeking a hands-on internship in robotics.

**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*

* Develop and test robotic position and force control software in C
* Model and design robotic mechanisms using Visual Studio, MATLAB, & Solidworks
* Devise experimental setups, test robotic systems’ performance, and validate results
* Manufacture robot mechanisms using CNC, hand/shop and electrical tools

ASU University Academic Success Programs *January 2016-Present*

* Communicate calculus and physics concepts to students verbally and in writing
* Schedule and lead Supplemental Instruction review sessions in calculus and physics

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

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

**Academic Projects**

Embedded Systems Design Project *Fall 2017*

* Coordinate electrical functionality with software using state chart & write software in C
* Communicate project requirements, features, and technical design during design review
* Test, debug, and modify embedded system using benchtop electrical tools
* Work with team to integrate mechanical, electrical, and software subsystems

Robotic Systems Pick and Place Manipulator *Fall 2017*

* Program object detection scripts using OpenCV and Python
* Program manipulator to move to specified coordinates using inverse kinematics
* Test and troubleshoot pick and place manipulator

**Relevant Coursework**

EGR455 Robotic Systems I, EGR304 Embedded Systems Design, PHY321 Vector Mechanics and Vibrations, EGR218 Materials and Manufacturing Processes, MAT267 Differential Equations

**Volunteer Service & Extracurriculars**

Mentor of Campo Verde High School’s Robotics team

* Suggest design changes, provide feedback, and assist in debugging code

Barrett Honors Writing Colloquium

* Communicate recommendations to improve students’ writing during tutoring sessions

**Technical Skills**

Programming (C, Python, MATLAB), Microsoft Office (spreadsheets, email, documents), CAD (Solidworks, Autodesk)