MATTHEW BRUCKER

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EDUCATION

Olin College of Engineering | Needham, MA
- Bachelor of Science in Engineering with Computing | GPA: 4.0 — May 2020
- **Relevant Coursework:** Quantitative Engineering Analysis, Software Design, Principles of Engineering, Complexity Science, Modeling and Simulation of the Physical World

Ankeny High School | Ankeny, IA — May 2016
- Awarded Ankeny Board of Education Special Recognition for achieving perfect ACT and SAT scores.

EXPERIENCE

Dwolla | Information Security Intern | Des Moines, IA — May - August 2016
- Tested and deployed open-source security tools for security testing/file integrity monitoring on Linux servers
- Wrote Python scripts to automate security testing/log processing internally and in Amazon Web Services
- Created Python program to analyze network traffic security rules in Amazon Web Services
- Used Bash and PowerShell scripts to automate security processes on Windows and Linux servers

Olin Robotics Lab | Edwin Robotics Group — Fall 2016
- Developed machine learning optical character recognition program to recognize handwritten characters using Python and OpenCV
- Interfaced with robotic arm using ROS to investigate human-robot interaction and create interactive handwriting recognition program

PROJECTS

Autonomous Driving Simulation | Software Design Project — Spring 2017
- Developed Python simulation of self-driving car that uses evolutionary algorithms to learn

Python-Based 3D Graphics Engine | Software Design Project — Spring 2017
- Designed and programmed interactive 3D graphics engine in Python, using Numpy and matrix math to calculate and accurately display objects in a 3D world

Python Facial Recognition | Quantitative Engineering Analysis Project — Spring 2017
- Created facial recognition program in Python using two linear algebra-based algorithm

Inverted Pendulum PID Control | Modeling and Simulation Project — Fall 2016
- Applied mechanics and controls concepts to model an inverted pendulum system using MATLAB
- Simulated heuristically-tuned PID control of the system in MATLAB

RESEARCH

Olin College:

Narrative Identity Research — Summer 2017
- Analyzed narratives for identity themes as part of collaborative study of aging in high-stress individuals

Education Research — Spring 2017 - Present
- Conducted grounded theory analysis and coding of narrative interviews regarding perspectives about gender among engineers

SKILLS

Programming
Python, Java, C++, ROS, MATLAB

Technology
Arduino, Amazon Web Services, Linux servers, OpenCV, Mathematica

Design
Adobe Illustrator/inDesign, Autodesk Inventor, SolidWorks, OnShape