Joshua Siegel

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EDUCATION

Rutgers University, New Brunswick— *Electrical/ Computer Engineering & Computer Science*
GPA 3.97   (2016-2020)
Eastern Regional High School, Voorhees, NJ— *High School Diploma*
GPA 4.0   (2012 -2016)

JOB EXPERIENCE

Lockheed Martin, King of Prussia, PA— *Electronics Engineering Intern*   (2017)

- Created a Matlab script to find the orbit of a reentry vehicle around Earth and where it currently is in its orbit.
- Improved range resolution for FMCW radar implemented with a Software Defined Radio using Python, C++ and GNU Radio
- Analyzed extensive circuit diagram of avionic harnesses for a new missile and created automated Excel spreadsheets.
- Performed closed loop failure analysis on a failed radar power supply
- Devised a technical test plan for test equipment refurbishment.

PROGRAMMING SKILLS

- **Programming Languages-** C, Java, Python, Matlab, C++, Android API, Arduino
- **Tools/Skills-** GNU Radio, Object-Oriented Design, Data Structures, OpenCV, Linux, Github, Android Studio, Eclipse, TinkerCAD, Microsoft Office

RESEARCH and PROJECTS

- **Controlling a Robot with Your Mind**- Designed two experiments to gather brain wave data during motion. Used this data to create a machine learning model that moves a robot arm based on brain waves. Presented at CS Research Conferences.
- **Rock Paper Myo**- Created a system to win rock paper scissors using an Arduino and a Myo armband that reads muscle movement. Interfaced the Myo armband with the Arduino to determine the correct move to play. Won Best Hardware Hack.
- **Dormwatch-** Created system to monitor sound in dorms, and alert nearby residents of their noise level when it becomes too loud. Alerts residents by sounding a buzzer, lighting an LED, and displaying a message to be quiet.
- **RU Autonomous UAV-** UAV that flies over a specific area, avoids virtual obstacles, and searches for a set of targets with letters on them by taking pictures. I completed a program that processes the images to locate, and crop the targets.
- **Hole Dodger-** Android App created to test my programming skills. Listed on the Google Play Store.

AWARDS / CERTIFICATIONS

Rutgers Engineering Honors Case Competition 1st Place- Received 1st place out of 12 teams and opportunity to present to Rutgers Administration on our solution to increasing Rutgers pride. First freshmen-only team to win the competition. Featured on the front page of the Rutgers newspaper
Rutgers Engineering Honors Academy- one of 70 people chosen from approximately 7000 engineering applicants
Eagle Scout- Led a large group of workers to complete the longest Eagle Scout Project in my troop's history.

ACTIVITIES

Rutgers AIAA club (American Institute of Aeronautics and Astronautics)- Programmer   (2016-2017)
- Competed in Rutgers AUVSI-SUAS Autonomous drone competition
- Programmed a UAV to recognize targets on the ground using OpenCV in python
Rutgers IEEE Robotics- Robotics designer   (2017-2018)
- Created mobile robots using an Arduinos as well as various sensors and 3D printed chassis.
Eagle Scout Project- Creator and Leader   (2015)
- Created a substantial service project to benefit my community
- Managed a large group of around 50 people to design, clear, and mulch a 1 mile long jogging trail in dense woods
- Spanned over 8 service days, generating over 500 volunteer hours
Boy Scouts of America- Patrol Leader, Troop Guide   (2008-2016)
- Responsible for the safety and mentorship of a group of 10 scouts.
- Plan and lead patrol meetings and activities
- Delegated tasks to other scouts
Rutgers Residence Hall Association- Floor Representative   (2016-2017)
- Planned activities for Barr Hall, about 2 activities a month.
- Collaborated with the executive board to deliver efficient planning
National Honor Society- Member   (2015-2016)
- Tutored high school students in Math and Science
- Highly selective group of students based on leadership, character, service, and academics.
- Participated in soup kitchen volunteering and tutoring.
Rutgers Swim Team- Competitor   (2017-2018)
- Participated in multiple swim meets and daily practices