Courtney Schmitt
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EDUCATION

Johns Hopkins University **Baltimore, MD**
Bachelor of Science in Mechanical Engineering (Concentration in Aerospace Engineering) Expected May 2018
- **GPA:** 3.33 / 4.0; ACT 33
- **Honors:** Johns Hopkins University Dean's List

Master of Science in Engineering in Robotics (Robotics MSE) Expected May 2019

DESIGN PROJECTS

Senior Design
- Assisted the Space Science Telescope Institute in a year long capstone project.

Inverted Pendulum
- Performed PID control using an Arduino and Matlab to create a closed loop system for an inverted pendulum.

Crane
- Constructed a miniature crane required to lift a 10 lb load in under 2 minutes.

Online Portfolio
- Self-taught HTML/CSS to create a personal professional website highlighting my work.
  CourtSchmitt.github.io

WORK & LEADERSHIP EXPERIENCE

Duro UAS **Bronx, NY**
Mechanical Engineering Intern June 2017 – August 2017
- Designed the pressure vessel and carrier board to contain the computer and electrical components critical to the Harbor AUV's operation. Collaborated with the Electrical team to organize and map the placement and wiring of the components on board to optimize space and maximize heat dissipation.
- Streamlined manufacturing procedures by writing detailed documentation for the full construction of the AUV. Created CAM toolpaths, generated CNC G-code, and prepared part files for laser cutting and 3D printing.
- Analyzed the buoyancy requirements of the AUV and performed necessary calculations to maintain positive buoyancy.

Johns Hopkins University Department of Mechanical Engineering **Baltimore, MD**
Undergraduate Researcher July 2016 – September 2016
- Analyzed insect wings and flow patterns using high speed videography and performing Fast Fourier transformation calculations to obtain accurate wing beat frequencies and used the results to develop solutions for insect mitigation with Dr. Rajat Mittal, a frequently published scientist of the JHU Flow Physics and Computation Lab.
- Overhauled data acquisition by integrating all electrical components via a Matlab GUI compatible with Arduino hardware.
- Utilized SolidWorks to model experimental set up. Developed an improved insect tether system.

Johns Hopkins University Department of Physics and Astronomy **Baltimore, MD**
Undergraduate Researcher May 2015– June 2016
- Analyzed the performance of the Evolutionary Map of the Universe (EMU) project under Dr. Alvise Raccanelli.
- Demonstrated how the Cosmic Microwave background interacts with dark matter by using C++, Python and Matlab to perform statistical analysis and constrain dark energy parameters.
- Calculations influenced a $200 million project and showed that EMU is projected to do as well as Euclid, a satellite launching in 2020 costing about $1.2 billion, but for cheaper.

SKILLS AND RELEVANT COURSEWORK

Relevant Coursework: Computer-Aided Design; Mechanics Based Design; Materials Selection; Manufacturing Engineering; Mechanical Engineering Thermodynamics; Fluid Mechanics; Heat Transfer; Electronics and Instrumentation; Design and Analysis of Dynamical Systems; Dynamics of Robots and Spacecraft; Probability and Statistics; Introductory Programming in Java; Robots Sensors and Actuators; Mechatronics; Data Structures; Engineering Business and Management

Technical Skills: Creo, Unix, Matlab, SolidWorks, Python, Java, HTML/CSS, Digital Image Correlation, Particle Image Velocimetry, Finite Element Analysis, Arduino, Soldering, Mill/Lathe, Welding, Rapid Prototyping, CAM/CNC, G-Code, Laser Cutting

ACTIVITIES AND INTERESTS

Interests and Activities: Teaching Assistant for Physics Laboratories, Design Build Fly, Volleyball, Robotics, Skiing