EMILY J. SHEETZ

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Education

Bachelor of Arts, Mathematics and Computer Science **May 2018**
Spanish Minor
Monmouth College, Monmouth, Illinois
GPA: **3.969** / 4.0

Work Experience

Research Assistant **May 2017 – July 2017**
Auburn University, Auburn, Alabama

- Worked under the supervision of Dr. Saad Biaz and Dr. Richard Chapman
- Collaborated with peers to research, develop approach to problem, and write code
- Wrote academic paper, created poster, and presented research

Monmouth College Computer Science Tutor **August 2016 – Present**
Monmouth College, Monmouth, Illinois

- Utilize knowledge of programming practices and languages C++ and Java
- Lead group discussions of material and explain concepts one-on-one
- Encourage students to think about problems and solutions from new perspectives

Research Assistant **June 2016 – August 2016**
University of Arizona, Tucson, Arizona

- Worked under the supervision of Dr. Jonathan Sprinkle and doctoral students
- Collaborated with peers to research, write *MATLAB* scripts, and design experiments
- Experienced writing academic papers and presenting research

Monmouth College Writing Tutor **May 2016 – Present**
Monmouth College, Monmouth, Illinois

- Provide direction to students at any point in the writing process
- Utilize nondirective tutoring methods to help students to improve their writing process
- Develop relationships with students through encouragement and validation of their efforts

Monmouth College Speech Assistant **August 2015 – Present**
Monmouth College, Monmouth, Illinois

- Assist students at any point in the process of drafting or delivering a speech
- Observe speeches, evaluate speakers' needs, and provide feedback on speeches
- Develop relationships with students by encouraging them and supporting their efforts

Research

Auburn Research Experience for Undergraduates on Smart UAVs **Summer 2017**

- Visual homing on unmanned aerial vehicles (UAVs)
- Introduced to Python, *OpenCV*, and machine learning implementations
- Programmed convolutional neural network for homography estimation in MATLAB
- Worked independently to research, design simulation framework, and find solutions

CAT Vehicle Research Experience for Undergraduates **Summer 2016**

- System identification to develop a mathematical model for internal vehicle dynamics
- Introduced to autonomous systems, control theory, and model predictive control
- Worked independently to research, analyze data, troubleshoot, and solve problems
- Operated the Cognitive Autonomous Test (CAT) Vehicle for project testing

High Speed Imagery and Mathematical Modelling **August 2015**

- Conducted experiments for introduction into the mathematics of chaos theory
- Supervised students during Summer Opportunity for Intellectual Activity Projects
- Presented research to faculty, students, and community members

Research in Mathematics, Particle Image Velocimetry **2014 – 2015**

- Particle image velocimetry to investigate water flow around airfoils at angles of attack
- Operated lab equipment including lasers, flow cell, and Phantom v9.1 high speed camera
- Created poster presentation and presented research to students and faculty members

High Speed Imagery and Mathematical Modelling **August 2014**

- Focused on experiment design, data analysis, and introduction to mathematical modelling
- Collaborated with mathematics majors to conduct experiments
- Gained experience designing experiments and using *Mathematica* and *MATLAB*

Software and Programming Languages

Mathematica
MATLAB
C++
Java
Python

Honors and Leadership

Current Member of Honors Program
Current Blue Key Honor Society Secretary
Current Member of Alpha Lambda Delta
Current Wind Ensemble President
Current Section Leader of the Wind Ensemble Flute Section
Current Section Leader of the Fighting Scots Marching Flute Section