Brady G. **Moon**

Roboticist · Electrical Engineer

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Summary

Master's student in robotics at Carnegie Mellon University. Passionate about solving robot autonomy to improve the quality of people's lives. Obsessed with good design, innovation, and continual learning. Seeking opportunities to tackle hard problems.

Education

Carnegie Mellon University — *Pittsburgh, Pennsylvania*

M.S. in Robotics — *August 2019 - Present*

Brigham Young University — *Provo, Utah*

B.S. in Electrical Engineering — *August 2015 - April 2019*

- Graduated *summa cum laude* (4.0 GPA)
- Emphasis in Signals and Systems

Work and Research Highlights

Air Lab — *Pittsburgh, Pennsylvania*

Research Assistant — *August 2019 - Present*

- Creating a neural network to select motion primitives for a UAV to fly in windy urban environments
- Building and validating an energy model for autonomous unmanned ground vehicles

Near Earth Autonomy — *Pittsburgh, Pennsylvania*

Robotics Engineering Intern — *May 2019 - August 2019*

Magicc Lab — *Provo, Utah*

Research Assistant — *March 2017 - April 2019*

- Developed a search algorithm for cooperating UAVs to maximize area knowledge and the number of tracked targets
- Trained a model to classify ten gestures using accelerator and gyroscope measurements with an accuracy of 95%
- Designed and tested intuitive behaviors and gestures for naturally directing UAV swarms

Utah Underwater Robotics — *Provo, Utah*

Executive Director — *January 2016 - April 2019*

- Directed a statewide STEM outreach program, the largest landlocked ROV competition in the US, impacting over 800 K-12 students annually
- Worked with schools on integrating this program into their class curricula and after-school programs

Scalar Analytics — *Sandy, Utah*

Software Development Inter — *June 2016 - July 2016*

- Worked directly with the director of operations in building a new and efficient customer relationship management program
- Created scripts to automate the workflow of employees, saving hours of time each day

Leadership and Volunteer Experience

Kiri — *Salt Lake City, Utah*

Vice President — *January 2018 - June 2019*

- Founded an educational toy start-up as part of a selective interdisciplinary fellowship program
- Won three business model competitions and was successfully funded on Kickstarter

Self-Help Homes — *Provo, Utah*

Executive Director — *August 2015 - April 2019*

- Directed and instructed up to 70 volunteers weekly in assisting low-income families build their own homes
- Personally helped construct over 50 homes

Awards & Stuff

Skills

- Python
- C++
- C
- Matlab
- ROS
- Git
- Pytorch
- OpenCV

Technologies

- Git
- ROS & Gazebo
- Tensorflow
- OpenCV
- Pixhawk & Arduplane
- Linux

Awards & Scholarships

- NSF Graduate Research Fellowship
- President's Volunteer Service Award 4x
- NSF REU Supplement
- Goldwater Scholarship Honorable Mention
- Gold Medal Congressional Award
- Crocker Innovation Fellowship
- Tau Beta Pi Scholarship
- BYU ORCA Research Grant
- Eagle Scout

Publications

John Akagi, Brady G. Moon, Xingguang Chen, Cameron K. Peterson, "Gesture Commands for Controlling High-Level UAV Behavior," *2019 International Conference on Unmanned Aircraft Systems*.

Brady G. Moon, Cameron K. Peterson, "Learned Search Parameters For Cooperating Vehicles using Gaussian Process Regressions," *2018 International Conference on Unmanned Aircraft Systems*.

John Akagi, Timothy Devon Morris, Brady G. Moon, Xingguang Chen, Cameron K. Peterson, "Gesture Commands for Controlling High-Level UAV Behavior," *Journal of Intelligent & Robotic Systems* (Submitted To).