Michael **Farrell**

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Education

Brigham Young University — *Provo, UT*

M.S. Mechanical Engineering — *Apr. 2017 - Present*

- Research: Visual Inertial Estimation
- GPA: 4.0/4.0
- Course Work:
  Autonomous Systems, Deep Learning, Robotic Vision, Advanced Computer Vision, Linear System Theory, Nonlinear System Theory

Brigham Young University — *Provo, UT*

B.S. Mechanical Engineering — *Apr. 2017*

- Cummulative GPA: 3.99/4.0
- Elective Courses: Flight Dynamics and Control, Design of Mechatronic Systems, Design of Control Systems, Robotics

Publications

- Farrell, M., Jackson, J., Nielsen, J., Bidstrup, C., and McLain, T. Error-State LQR Control of a Multirotor UAV, *International Conference on Unmanned Aircraft Systems*, 2019.

Work Experience

Inertial Sense Inc. — *Lindon, UT*

SLAM & Computer Vision Consultant — *Mar. 2019 - Apr. 2019*

- Developed state-of-the art visual loop closure method for online SLAM of a ground robot.
- Implemented and trained deep neural networks for real-time, onboard image processing.

Brain Corporation — *San Diego, CA*

R&D Software Engineering Intern — *June 2018 - Aug. 2018*

- Collaborated on a code base of 1 Million+ lines of code using GitHub.
- Researched and implemented new motion planning algorithms for a ground robot.

MAGICC Lab, Brigham Young University — *Provo, UT*

Graduate Researcher — *Sep. 2016 - Present*

- Researching autonomous landing of multirotor UAVs on moving platforms.
- Experience wrigin custom control and navigation code for fixed-wing and multirotor UAVs.

ADSYS Controls Inc. — *Irvine, CA*

Mechanical Engineering Intern — *May 2016 - Aug. 2016*

- Created methods and fixtures for testing precision of 4-axis gimbal to 100's of μRad.
- Presented work weekly to CEO and head engineers.

Aerofit LLC. — *Fullerton, CA*

Mechanical Engineering Intern — *May 2015 - Aug. 2015*

- Trained department leader and employees for new $10 million/yr. product line.
- Planned and oversaw testing of over 400 hydraulic fittings for aerospace applications.

Project Experience

Autonomous UAV Team — *Provo, UT*

Brigham Young University — *Oct. 2015 - June 2017*

- Led team of 40+ undergraduates that placed 10th in international AUVSI competition.
- Implemented guidance algorithms for autonomous takeoff, landing, and obstacle avoidance.

Mars Rover Team — *Provo, UT*

Brigham Young University — *Aug. 2016 - June 2017*

- Placed 4th in international University Rover Challenge.
- Developed new autonomous driving and navigation capabilities of rover.