Ronald Ogden

PhD Student · Department of Aerospace Engineering · CLeAR Lab

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Education

University of Texas *Austin, TX*

PhD Aerospace Engineering *August 2022 - Present*

- Advisor: Dr. David Fridovich-Keil
- Research interests: stochastic control, information theory, autonomous flight, optical compression
- Cumulative GPA: 4.0/4.0

Massachusetts Institute of Technology *Cambridge, MA*

BS Aerospace Engineering and Mathematics *August 2014 - June 2018*

- Cumulative GPA: 4.7/5.0

Professional Experience

Wisk Aero *Mountain View, CA*

Flight Test Engineer *November 2018 - July 2022*

Authored developmental test plans for autonomous eVTOL aircraft. Executed test director and subsystem monitor roles during flight test events. Developed data analysis tools to evaluate aircraft system performance. Interfaced with engineering to root-cause and rectify aircraft anomalies. Reviewed engineering requirements to determine their operational validity. Reviewed software changes to determine functional/safety impacts to flight.

MIT Aerospace Computational Design Lab *Cambridge, MA*

Undergraduate Researcher *May 2017 - August 2017*

Performed CFD analysis on kite power systems and wind turbines. Implemented aerodynamic model for kite based on actuator line theory. Aimed to quantify efficiency benefit of kite power systems over horizontal axis wind turbines due to aerodynamic mixing between layers of atmosphere.

Northrop Grumman *San Bernardino, CA*

Technical Intern *May 2016 - August 2016*

Developed missile system flight and performance visualization software. Dynamically linked MATLAB GUI with Systems Tool Kit (STK).

MIT Aerospace Controls Laboratory *Cambridge, MA*

Undergraduate Researcher *February 2016 - May 2016*

Restored rovers for path finding experimentation. Tested and analyzed rover battery performance.

ATI SAT Prep *Cambridge, MA*

Writing Teacher *September 2014 - December 2015*

Restored rovers for path finding experimentation. Tested and analyzed rover battery performance.

Publications

Published

Cuvelier, Travis, Ronald Ogden, and Takashi Tanaka. "Minimum Bitrate Neuromorphic Encoding for Continuous-Time Gauss-Markov Processes." IEEE Transactions on Automatic Control (2024).

Ogden, Ronald, and Takashi Tanaka. "Rate-Distortion Achievability via Event Threshold Quantizers for Planer Wiener Processes." IEEE Control Systems Letters (2024).

Teaching Experience

Spring 2024 **Flight Dynamics**, Instructor of Record

Extracurriculars

Service and Outreach

MIT Educational Council

Interviewer *October 2018 - March 2024*

Interview approximately ten MIT applicants for admissions process annually. Write reports for admissions team to review. Provide resources and guidance for prospective students to pursue interests in college.

MIT Department of Aerospace Engineering *Cambridge, MA*

Undergraduate Tutor *September 2017 - December 2017*

Tutored undergraduate students in introductory aerodynamics and thermodynamics.

Activities

MIT Design/Build/Fly *Cambridge, MA*

President *September 2014 - May 2018*

Lead design and production of aircraft to perform specified missions. Developed and executed structural, aerodynamic, propulsive and flight tests. Gained experience with composite layups, multidisciplinary optimization, CAD, aerodynamic analysis and non-conventional control systems.