Thomas **Fuller**

RESEARCH ENGINEER

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Education

University of New Hampshire	*Durham, N.H.*
M.S. IN MECHANICAL ENGINEERING	*Graduated May 2016*

- GPA: 3.04/4.00
- Master Thesis: Celestial Navigation Prototype for Computer Vision Based Nautical Sight Reduction

Wentworth Institute of Technology	*Boston, M.A.*
B.S. IN ELECTROMECHANICAL ENGINEERING	*Graduated May 2013*

- GPA 3.20/4.00
- Gave May 2013 Commencement Speech "The Dream of Space Goes To Die"

Experience

Boston University	*Boston, MA*
PHD STUDENT	*Aug. 2016 - Exited May 2017*

- Modeled Earth's magnetospheric northern cusp in Python using NASA's Tsyganenko magnetosphere model
- Simulated orbits using NASA General Mission Analysis Tool to determine cusp crossings in polar orbiting satellite for various launch dates and orbital inclinations
- Received Distinguished Mechanical Engineer Fellowship, 5 Year Full Scholarship
- Served as Graduate Teaching Fellow (GTF) for ME406: Dynamics of Space Vehicles

University of New Hampshire	*Durham, N.H.*
RESEARCH AND TEACHING ASSISTANT	*Aug. 2013 - May. 2016*

- Researched celestial navigation using DSLR camera image and inertial measurements to determine latitude and longitude from star images
- Developed Python implementation of Nautical Sight Reduction algorithm
- Constructed first prototype circuit for optical feedback sensor arrays used in Dr. Firat Eren's Ph.D. dissertation "Pose Detection and Control of Unmanned Underwater Vehicles (UUVs) Utilizing an Optical Detector Array"
- Presented Presented UNH research projects to the US Navy and NASA at NSWC Carderock and NASA Goddard Spaceflight Center
- Served as teaching assistant for ME747: Experimental Measurement and Modeling of Complex Systems, ME670: Systems Modeling, Simulation, and Control, ME696: Numerical Methods, and PHYS407: General Physics I

C.S. Draper Laboratory	*Cambridge, M.A.*
STUDENT SOFTWARE V&V ENGINEER	*Jun. 2011 - Aug. 2013*

- Led V&V testing effort for Input/Output subsystem of Trident MK6MOD1 inertial guidance system software, written in C
- Used MATLAB, Python and Simulink to induce different conditions in test flight simulations
- Wrote VBA script to reallocate student engineer time from recordkeeping to software test task
- Moderated peer review process for various program documentation

Selected Publications

2016	**M.S. Thesis**, Celestial Navigation Prototype for Computer Vision Based Nautical Sight Reduction	*Thesis*
2016	**Podium Paper**, Celestial Navigation Device for Future Autonomous Applications	*AAS-16-509*
2013	**Poster Paper**, Active Aerodynamic System	*IMECE2013-65147*

Skills

Programming	Python, Numpy, Scipy, matplotlib, MATLAB/Simulink, C/C++, LaTeX, VB for Applications
Software	Linux, Excel, i3wm, NASA GMAT
Equipment	Arduino, Raspberry Pi, Beagleboard, Oscilloscope, Multimeter
Research Interests	Celestial Navigation, Control Systems Engineering, Space Physics, Machine Learning