Randall B.D. Schur

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Education

The George Washington University, Washington, D.C. July 2014 – May 2016
Master of Science, Mechanical Engineering
Thesis: Navigation Algorithms for Energy Harvesting Robots

The Pennsylvania State University, University Park, PA August 2009 – May 2013
Bachelor of Science, Mechanical Engineering
Engineering Design Certificate

Engineering Experience

Naval Research Laboratory, Washington, D.C. May 2015 – Present
Graduate Student Intern – Exelis, TitanOneZero, NRL - Code 5545

- Develop and program navigation algorithm for field test of multi-robot system
- Design components meeting size, weight, and power requirements for deployed systems
- System integration and prototyping tasks including mechanical, electrical, and programming
- Support experimental and field testing as mechanical design engineer

The George Washington University, Washington, D.C. August 2014 – Present
Graduate Research Assistant

- Develop energy-focused navigation algorithms for autonomous vehicles to extend mission duration
- Perform MATLAB simulations to compare novel navigation approach to existing methods
- Design and build physical robotic platform to validate and test navigation algorithms

Pedal Forward, Washington, D.C. February – June 2015

- CAD and manufacturing consultant for bicycle design

ONExia, Inc., West Chester, PA October 2013 – July 2014
Applications Engineer

- Served as technical resource for customers on machine concept development and component selection
- Proposed, evaluated and implemented solutions for customer-specific requirements
- Selected components for robotics and automation systems, including custom pick and place and vision solutions

Penn State Department of Mechanical & Nuclear Engineering, University Park, PA May 2012 – May 2013
Undergraduate Research Assistant – Control Optimization Laboratory

- Hybridized a gas engine RC car as part of an educational kit in hybrid powertrain design

Penn State Department of Mechanical & Nuclear Engineering, University Park, PA May 2011 – June 2012
Undergraduate Researcher – Ultra Intense Laser Laboratory

- Co-author on paper published on Laser Induced Breakdown Spectroscopy in Review of Scientific Instruments
- Designed experimental equipment in SolidWorks, implemented working solution for three experiments

Technical Skills

Programming
MATLAB, Python, C++, Labview, Visual Basic, OpenCV/computer vision
Experience with Linux, Git, Raspberry Pi, Arduino, BASIC Stamp

Design and Manufacturing
Machine shop operation and manufacturing processes– mill, lathe, water jet, laser cutter, rapid prototyper
SolidWorks (Certified SolidWorks Associate): modeling, FEA, drafting