Gregory Anderson

Computer Science

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Education

2013 – 2016 **Bachelor of Science Double Major in Computer Engineering and Mathematics expected May 2017**, *University of Virginia (UVa)*, Charlottesville, Va, GPA (to date): 3.776/4.000.

Work Experience

2015 – 2016 **Research Assistant**, *University of Virginia*, Charlottesville, VA.
Examining ways to make formal verification practical for working software engineers. Focused on verifying Simulink models and making the verification tools developed for that purpose accessible to users with little formal methods training. Developed an interface to a PVS-based tool for automatically verifying certain properties of Simulink models (see Publications).

2016 **Research Intern**, *NASA Langley Research Center*, Hampton, VA.
Applications of formal verification in the Aeronautical industry. Extended a PVS library to perform real-valued computations to an arbitrary precision. Used PVS to develop a refinement of an algorithm related to aircraft communications and proved it to be equivalent to the original algorithm. Used Frama-C to develop and verify an implementation of this refinement.

2015 **Intern**, *Robert Bosch, LLC.*, Farmington Hills, MI.
Reviewed existing techniques for specifying and verifying large-scale control software, especially with regard to automated driving systems. Covered a broad range of formal and semi-formal methods including modal logics, model-driving design, and symbolic and concolic testing.

2014 **Intern**, *Reinventing Geospatial, Inc.*, Fairfax, VA.
Developing software to interact with geospatial data.

Relevant Coursework

2016 **Embedded System Design**, *UVa*, In progress.
Team project to design a beamforming system using a National Instruments myRIO

2016 **Dataflow Programming for Embedded Systems**, *UVa*, A.
Design of robot control software using LabVIEW and a National Instruments myRIO

2015 **Algorithms**, *UVa*, A.
Fundamentals of algorithm design and analysis.

2015 **Program and Data Representation**, *UVa*, A-.
Data structures and their machine-level representations

2015 **Introduction to Embedded Computer Systems**, *UVa*, A+.
Hardware and software organization, power management, digital and analog I/O, memory systems

2014 **Discrete Mathematics**, *UVa*, A.
Introduction to set theory, functions, relations, formal logic, and proofs

2014 **Software Development Methods**, *UVa*, A.
Software design principles and methodologies including Agile development and Android applications

Publications

2016 G. N. Anderson, A. B. Hocking, and J. C. Knight, "Visualizing properties of Simulink models," in *The 11th Int. Conf. on System Safety and Cyber Security*, London, U.K., 2016

Certifications

2017 Certified LabVIEW Associated Developer