

James DeFilippo

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EDUCATION

UMASS LOWELL

B.S. IN MATHEMATICS
Magna Cum Laude
2011 - 2015 | GPA: 3.73

SKILLS

LANGUAGES

- Python • C • C++
- MatLab • Simulink
- BASH • Assembly

TECHNOLOGIES

- Linux • MySQL
- MagicDraw • UML
- Git • SVN
- Simics • VxWorks
- HTML • CSS

DOMAIN KNOWLEDGE

- Software Architecture
- Spiral Development
- Space Systems
- Embedded Systems
- Fault Tolerance
- Kalman Filtering
- Applied Probability

COURSEWORK

- Mathematical Modeling
- Measure and Probability Theory
- Stochastic Processes
- Partial Differential Equations
- Abstract Algebra
- Introduction to Algorithms
- Foundations of Computer Science
- Computer Organization and Assembly Language Programming
- Computing I-III
- Probability and Statistics
- Introduction to Topology
- Number Theory
- Real Analysis

DISTINCTIONS

- Commonwealth Scholarship
- Zamankos Endowed Scholarship
- Pi Mu Epsilon
- Dean's List

EXPERIENCE

DRAPER | SOFTWARE ENGINEER

May 2015 - Present | Cambridge, MA

- Designed, developed, and tested key components of fault-tolerant flight software in embedded C for NASA-funded reusable spacecraft.
- Generated simulation and modeling software in MATLAB and Simulink to analyze flight trajectories using Kalman filtering algorithms.
- Wrote object-oriented modernization design proposal for a major department's analysis tools to generalize and expand the functionality of existing software.
- Received Outstanding Contribution Award and subsequent promotion based on performance reviews.
- Designed Python framework for auto-testing legacy software.

IBM | SOFTWARE CO-OP

June 2014 - August 2014 | Littleton, MA

- Designed C++ test cases to ensure full code coverage.
- Learned company's software lifecycle for Lotus Notes, working to resolve outstanding PRs and implemented test cases using Visual Studio IDE and within a Windows environment.

PUTNAM INVESTMENTS | SOFTWARE CO-OP

January 2014 - May 2014 | Andover, MA

- Designed and implemented Python software to automatically update SQL tables with daily changes to employee information.
- Led efforts to create a department-wide version control using GIT.

ENGAGING COMPUTING GROUP | UNDERGRAD RESEARCHER

May 2012 - December 2013 | Lowell, MA

- Developed prototype evaluation system in Python to automatically grade submissions in a freshman-level CS course.
- Designed grading rubrics and teaching materials for an introductory Mobile Computing class.
- Contributed to the App Inventor Gallery, a code-sharing platform for community created Android apps, using JavaScript and Qooxdoo, an Ajax web-application framework.

MATHEMATICS DEPARTMENT | UNDERGRAD RESEARCHER

September 2012 - December 2013 | Lowell, MA

- Worked with a team of undergraduate and graduate students under Professor James Propp on problems involving de-randomized rotor-router models of stochastic processes.
- Communicated findings through technical writing and computer simulations.
- Presented results at the 2013 Mid-Hudson Mathematics Conference.