Adam J. Stewart

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Education

Bachelor of Science, Cornell University, College of Engineering, Ithaca, NY — May 2014
Major: Science of Earth Systems • Concentration: Computational Geophysics
Graduated *magna cum laude* with honors • Cumulative GPA: 3.94 • Major GPA: 4.04
Honors Thesis: Monitoring Glacial Velocity Variation in the Russian High Arctic Using Remote Sensing

Professional Experience

Argonne National Laboratory, Lemont, IL — October 2015 - Present
Assistant System Administrator

- Installed scientific packages from source code with multiple compilers and MPI implementations
- Collaborated on Python open source supercomputing package manager hosted on GitHub
- Overhauled Continuous Integration (CI) infrastructure using unit tests and flake8 through Travis CI
- Debugged node hardware, GPFS mounting problems, and InfiniBand network issues
- Unracked, moved, and reracked fully loaded servers hosting 1.2 petabytes of storage nodes

Lockheed Martin, Owego, NY — June 2014 - September 2015
Associate Software Engineer

Infrastructure Analytics program (IA)

- Worked on a NYSEG/Iberdrola contract to develop software to detect downed power lines and flooding
- Enhanced simulator for modeling LiDAR data of a town with houses, trees, poles, and power lines
- Programmed primarily in C# in a .NET Framework using Microsoft Visual Studio
- Investigated several different Continuous Integration (CI) software tools for build and test automation

Remote Computer Reader program (RCR)

- Worked on the image processing software used by the USPS to sort and deliver mail
- Conducted a Failure Mode and Effects Analysis to track down bugs and discover monetary potential
- Enhanced Performance code (C) and overhauled internal testing tools (Perl, Bash, Python)
- Wrote Expect script to run Makefiles, ssh into remote machine, and ftp tar files to test bench
- Cleared for a Secret Security Clearance to access classified address databases

Paleontological Research Institution, Ithaca, NY — September 2010 - January 2012
Collections Assistant

- Inventoried and relabeled older, more delicate specimens for organization and preservation
- Renovated and reorganized upper collections under NSF grant, allowing for easier access for researchers
- Cataloged Zinsmeister collection and updated the master database of specimens
- Documented and photographed Syracuse University collection journals

Research Experience

Department of Earth and Atmospheric Sciences, Cornell University, Ithaca, NY — May 2013 - May 2014
Undergraduate Research Assistant, with Prof. Matthew E. Pritchard

- Applied remote sensing techniques, such as feature tracking, to study the Russian High Arctic
- Investigated effects of climate change on glacial velocities, calving rates, and ice shelf breakup
- Processed ASTER and Landsat satellite imagery using GMT, AROP, and ROI_PAC software
- Wrote Python, MATLAB, and Bash scripts to automate rapid processing of data
- Designed new method of noise removal based on the comparison of each pixel with its nearest neighbors

Department of Earth and Atmospheric Sciences, Cornell University, Ithaca, NY — August 2012 - May 2013
Undergraduate Research Assistant, with Prof. Larry D. Brown

- Studied the application of seismic interferometry to monitor magma reservoir inflation at Montserrat
- Researched effects of seismic attenuation on aftershocks
- Analyzed aftershock records from dense station arrays in Maine and Virginia

Teaching Experience

Department of Earth and Atmospheric Sciences, Cornell University, Ithaca, NY May - June 2014
Teaching Assistant

- Served as a Teaching Assistant for Satellite Remote Sensing Training for Biological Oceanographers course
- Taught an intensive graduate-level course composed of 20 oceanographers from around the world
- Wrote Python lesson plan from scratch and answered questions about Python and IDL programming
- Debugged satellite image processing scripts and managed Python module installation from source code

Department of Computer Science, Cornell University, Ithaca, NY January - May 2014
Undergraduate Python Consultant

- Helped teach Introduction to Computing using Python and Transition to Object-Oriented Programming
- Facilitated learning in a weekly lab session of 36 students, troubleshot assignments, and graded exams
- Held weekly consulting hours, working one-on-one with students to help clarify course material

Department of Physics, Cornell University, Ithaca, NY August 2012 - December 2013
Undergraduate Teaching Assistant, PhysTEC Program

- Taught course material for Introduction to Mechanics, Heat/Electromagnetism, and Oscillations, Waves, and Quantum Physics courses to 50+ students
- Led cooperative discussion and laboratory sections to promote understanding of physics material
- Coordinated homework study groups to encourage collaboration on homework assignments

Camp Barton, Boy Scouts of America, Trumansburg, NY Summers 2008 - 2012
Nature Director

- Managed a department of 6 staff members, training them to become ecology counselors as well as leaders
- Instructed between 3 and 5 weekly merit badges to up to 30 boy scouts ranging in age from 10 to 18
- Rewrote lesson plans for all 20 merit badges, working with counselors to address various shortcomings
- Established new off-site ecology program, introducing scouts to advanced topics at outside organizations
- Maintained Camp Conservation Plan and oversaw conservation projects led by each Boy Scout troop

Publications

- Melkonian, A. K., Willis, M. J., Pritchard, M. E., & Stewart, A. J. (2016). Recent Glacier Velocities and Thinning at the Novaya Zemlya Icefield. *Remote Sensing of Environment, 174*, 244-257.

Grants, Honors, and Awards

Frank H. T. Rhodes Award	2014
Dean's List	2010 - 2014
Michael W. Mitchell Prize	2013
Engineering Learning Initiatives Research Grant	2012 - 2013
Gertrude Spencer Prize Honorable Mention	2011
Lockheed Martin Foundation Scholarship	2010
Eagle Scout	2008

Outreach and Leadership Experience

Mentor for New Visions Job Shadowing Program at Lockheed Martin	2015
Test Proctor for Cornell Science Olympiad Invitational	2015
President of Science of Earth Systems Student Association	2012 - 2014
Tae Kwon Do Team	2011 - 2012
Executive Board of Cornell Ski and Snowboard Club	2010 - 2012
Boy Scouts of America	2002 - 2012

Volunteer in Collections Department of Paleontological Research Institution 2010 - 2011

Computer Skills

Programming Languages
Python, Bash, Perl, Ruby, C, C#, Java, MATLAB, JavaScript, Make, Expect, Tcl, IDL

Markup Languages
LaTeX, Markdown, reStructuredText, HTML, CSS

Software
VCS: Git, GitHub, GitLab, CVS
CI: Travis CI, Flake8, Sphinx
Text Editors: Vim, Sublime Text, Visual Studio, Eclipse
Atlassian: Jira, Confluence, Crucible
Other: Torque, Maui, GNU Debugger, SoftEnv

Platforms
Linux (Fedora, RHEL, CentOS, Ubuntu, Mint), macOS, Windows