# ADAM J. STEWART

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## EDUCATION

**Cornell University, College of Engineering**, Ithaca, NY May 2014
Bachelor of Science in *Science of Earth Systems*, concentration in *Computational Geophysics*
Graduated Magna Cum Laude with Honors • Cumulative GPA: 3.94 • Major GPA: 4.04

### Honors and Awards

Frank H. T. Rhodes Award (2014) • Michael W. Mitchell Prize (2013) • Dean's List (all semesters) • Gertrude Spencer Prize Honorable Mention (2011) • Lockheed Martin Foundation Scholarship (2010) • Eagle Scout with 3 palms

### Relevant Courses

Object-Oriented Programming and Data Structures • UNIX Tools and Scripting • Engineering Computation

## RESEARCH EXPERIENCE

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

- Applied remote sensing techniques such as feature tracking to study the Russian High Arctic
- Investigated the 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

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

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

## TEACHING EXPERIENCE

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

- Served as a Teaching Assistant for *Satellite Remote Sensing Training for Biological Oceanographers* course
- Taught an intensive graduate 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

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

- 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

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

- 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

**Ecology/Conservation Director** Summers 2008 - 2012
*Camp Barton, Boy Scouts of America*, Trumansburg, NY

- Delegated tasks to a department of six staff members

- Balanced teaching merit badges to scouts and administrative duties
- Rewrote lesson plans for all twenty merit badges
- Trained new staff members to become ecology counselors
- Established new advanced ecology program with outside organizations
- Maintained Camp Conservation Plan and oversaw conservation projects

## PROFESSIONAL EXPERIENCE

**Assistant System Administrator** October 2015 - Present

*Argonne National Laboratory*, Lemont, IL

- Installed scientific packages from source code with multiple compilers and MPI implementations
- Collaborated on Python open source supercomputer 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

**Associate Software Engineer** June 2014 - September 2015

*Lockheed Martin*, Owego, NY

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
- Performed 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 in order to access classified address databases

**Collections Assistant** September 2010 - January 2012

*Paleontological Research Institution*, Ithaca, NY

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

## 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.

## COMPUTER SKILLS

**Languages:** Python, Perl, Ruby, Bash, C, C#, Java, MATLAB, LaTeX, Make, Expect, Tcl, IDL, SQL, HTML, CSS, JavaScript

**Software:** VCS (Git, CVS), Travis CI, Atlassian (Jira, Confluence, Crucible), flake8, GNU Debugger, SoftEnv, Vim, Sublime Text, Visual Studio, Eclipse, GitHub, GitLab

**Platforms:** Linux (Fedora, Red Hat, CentOS, Ubuntu, Mint), macOS, Windows

## ACTIVITIES

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)