# Jeffrey **Hafner**


Physicist & Unix Engineer

*192 Victory Lane, Leetsdale PA 15056*

+1-315-532-0278 | jeffrey.p.hafner@gmail.com | jphafner.github.io | jphafner | jphafner


I am a geek, a skeptic and I wear bowties for fun. I have been a Unix Engineer for a while now, and was described on my 2017 review as highly innovative. Currently I am an Unix Engineer Engineer for Fedex Supply Chain. Experience complimented by Ph.D. in Physics.

**Technical Portfolio:** C, R, and Python, Scheme, Lua, Bash, Perl, Fortran, C++, LaTeX.

## Experience

### Unix Engineer
*Pittsburgh, PA*

Fedex Supply Chain — *April 2020–Current*

- I utilize Terraform and Ansible to deploy and configure systems on Oracle Cloud Infrastructure (OCI).
- I have written custom scripts to perform audits for clients and other stuff relating to OCI.
- I have brought automation with my Ansible skills.

### ROC Engineer
*Pittsburgh, PA*

Tech Mahindra — *May 2019–December 2019*

- Operate the inventory robots in Walmart
- Utilized ROS software in a Docker image
- Work for BossaNova robotics through Tech Mahindra
- All work was done on a Linux host

### Unix Linux Systems Engineer
*New York, NY*

IPsoft Inc — *Aug 2016–Mar 2018*

- Manage IT infrastructure of high profile clients
- Monitored client environments and developed automation to resolve issue
- Diagnosed issues with Unix/Linux.
- My communication with key clients was described as “commendable”
- Utilized Ansible and IPautomatas, their proprietary solution, to provide unix automation
- Provided automation for clients “that exceeds most of the rest of your teammates”.

### Physics Teacher
*Dobbs Ferry, NY*

Masters School — *2015–2016*

- Teaching 11$^{th}$ grade and AP Physics C: Mechanics
- An example lesson plan and lab report template used
- Utilized a unique assessment system that allowed infinite redos

### Physics Teacher
*Baltimore, MD*

Baltimore City Public Schools — *2014–2015*

- Teaching physics first at Mervo
- Utilized a unique assessment system that allowed infinite redos

### Adjunct Physics Professor
*Towson, MD*

Towson University — *2013-2014*

- Teaching Light and Color, a non-major physics course

### Postdoctoral
*Baltimore, MD*

University of Maryland — *2012*

- Implementation of Particle Mesh Ewald Electrostatics for Continuous Constant pH Molecular Dynamics in CHARMMM.

## Volunteer

### Physics Graduate Student Association Senator
*Buffalo, NY*

University at Buffalo — *Aug 2008–Dec 2011*

- Spent three years maintaining and starting the graduate student computer lab
- It involved Kerberos, OpenLDAP, OpenAFS, Python, Windows and Linux
- Was also in charge of the department webserver

# Education

**University at Buffalo** — *Buffalo, NY*

Ph.D in Physics — *Aug. 2006 – Feb. 2012*

**Andrews University** — *Berrien Springs, MI*

B.S./M.S. in Biophysics and Mathematical Studies — *Aug. 2001 – Aug. 2006*

# Awards and Certifications

2016 **Red Hat Certified System Administrator,** License 130-172-497 — *RHCSA*

2016 **Cisco Certified Entry Networking Technician,** License CSCO12981391 — *CCENT*

# Projects

**PHY506: Computational Physics 2** — *Buffalo, NY*

University at Buffalo — *Spring 2008*

Implemented a cellular automata traffic modeler in Python to investigate phase transitions in traffic

**PHY515: High Performance Computing 1** — *Buffalo, NY*

University at Buffalo — *Fall 2008*

Parallelized my dissertation utilizing ScaLAPACK.

**CSE536: Computational Biology** — *Buffalo, NY*

University at Buffalo — *Fall 2011*

Implemented a 2D Hydrophobic-Hydrophilic Protein folder utilizing an Ant Colony Optimization Algorithm in Python.

**Doctoral Dissertation** — *Buffalo, NY*

University at Buffalo — *2008–2011*

- titled: *Validation and Refinement of Course Grained Protein Models*
- About a 100 pages of text, Over 5000 lines of C, and over 1000 lines of Python.
- Work was performed on the computing resources of UB Center for Computational Research

**physicsAMC** — *Dobbs Ferry, NY and Baltimore, MD*

Physics Teacher — *2014–2016*

- A comprehensive physics exam bank that utilizes an lpeg parser for question selection.
- This project enabled me to use an infinite redo policy on all assessments, without punishment, which was an important motivation for this project, and created some of my favorite memories.
- this project utilizes LaTeX, lua, lpeg, and tikz for graphics, and contains more than a 100,000 lines of code.
- sample-exam, `https://github.com/jphafner/physicsAMC`

**physicsReport** — *Dobbs Ferry, NY*

Physics Teacher — *2015*

An example lesson plan, and lab report template that I used while a physics teacher, `https://github.com/jphafner/physicsReport`

# Publications

2009 **Approximate normal mode analysis based on vibrational subsystem analysis with high accuracy and efficiency,** Journal of Chemical Physics — *Hafner J. & Zheng W.*

2010 **Optimal modeling of atomic fluctuations in protein crystal structures for weak crystal contact interactions,** Journal of Chemical Physics — *Hafner J. & Zheng W.*

2011 **All-atom modeling of anisotropic atomic fluctuations in protein crystal structures,** Journal of Chemical Physics — *Hafner J. & Zheng W.*