Jeffrey **Hafner**

PHYSICIST & ENGINEERING SPECIALIST

8819 Oak Dr, Rome NY 13440

+1-315-617-9417 | ✉ 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

Engineering Specialist
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 done a lot of infrastructure as code using Terraform.
- 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 11th 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.*