

# Jeffrey Hafner

PHYSICIST & UNIX ENGINEER

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## Unix Engineer | Physicist, Computer Scientist

Innovative and driven IT professional with demonstrated success in maintaining technology, understanding client requirements and developing effective solutions, supporting a wide range of business applications. Highly skilled in installing, diagnosing, repairing maintaining and upgrading hardware and software. Able to troubleshoot problems on site or remotely, resolve user and system problems, and develop training to address knowledge gaps. Experience complimented by Ph.D. in Physics.

**Technical Portfolio:** C, R, and Python, Scheme, Lua, Bash, Perl, Fortran, C++,  $\text{\LaTeX}$ .

## Experience

### Unix Linux Systems Engineer

IPSOFT INC

New York, NY

Aug 2016–Mar 2018

- Manage IT infrastructure of high profile clients.
- Monitored client environments and developed automation to resolve issue.
- Provided automaton to clients using Ansible, for example patching.
- Most utilized VMWare, I have experience using VMWare.
- Had commendable communication with key clients, McKesson.
- Managed Unix/Linux hosts everyday.
- Diagnosed issues with Unix/Linux.
- Used scripting languages, Python and Bash.
- RHCSA certification was used often on this job.

### Research Assistant

UNIVERSITY AT BUFFALO

Buffalo, NY

Aug 2008–Dec 2011

- Produced three peer reviewed publications, with one selected for conference presentation, and one chosen as an editor's pick.
- All resources used were an HPC environment hosted at the Center for Computational Research at Buffalo.
- Several hundred jobs were run on the HPC environment.
- All code was written by me, so all debugging was done by me.
- I took a HPC course, and got an A.

## Volunteer

### Physics Graduate Student Association Senator

UNIVERSITY AT BUFFALO

Buffalo, NY

Aug 2008–Dec 2011

- Spent three years maintaining and starting the graduate student computer lab.
- It involved OpenLDAP, OpenAFS, Kerberos, and Python to bind things together.
- I was also in charge of the department webserver

## Education & certifications

### University at Buffalo

PH.D IN PHYSICS

Buffalo, NY

Aug. 2006 – Feb. 2012

### Andrews University

B.S./M.S. IN BIOPHYSICS AND MATHEMATICAL STUDIES

Berrien Springs, MI

Aug. 2001 – Aug. 2006

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

RHCSA

2016 **Cisco Certified Entry Networking Technician**, License CSC012981391

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## Projects

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### PHY506: Computational Physics 2

UNIVERSITY AT BUFFALO

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

Buffalo, NY

Spring 2008

### PHY515: High Performance Computing 1

UNIVERSITY AT BUFFALO

Parallelized my dissertation utilizing ScaLAPACK.

Buffalo, NY

Fall 2008

### PHY551: Grad Physics Laboratory 1

UNIVERSITY AT BUFFALO

- Created Josephson junctions for use in super conductive conditions
- Utilized a Scanning Tunneling Microscope to investigate surface electron structure

Buffalo, NY

Fall 2007

### CSE536: Computational Biology

UNIVERSITY AT BUFFALO

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

Buffalo, NY

Fall 2011

### Doctoral Dissertation

UNIVERSITY AT BUFFALO

- 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

Buffalo, NY

2008–2011

### physicsAMC

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  $\text{\LaTeX}$ , lua, lpeg, and tikz for graphics, and contains more than a 100,000 lines of code.
- sample-exam

PhysicsAMC

multiple locations

## Publications

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2009	<b>Approximate normal mode analysis based on vibrational subsystem analysis with high accuracy and efficiency</b> , Journal of Chemical Physics	Hafner J. & Zheng W.
2010	<b>Optimal modeling of atomic fluctuations in protein crystal structures for weak crystal contact interactions</b> , Journal of Chemical Physics	Hafner J. & Zheng W.
2011	<b>All-atom modeling of anisotropic atomic fluctuations in protein crystal structures</b> , Journal of Chemical Physics	Hafner J. & Zheng W.