Bret Augustine Comnes

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Email: bcomnes@pdx.edu Portland OR, 97209 Web: http://bret.io

Experience

Academic & Research Computing Systems Administrator

May 2013 - Present

Mobile: (707) 633-4552

PSU Office of Information Technology

Portland. OR

- Responsible for installing, maintaining and testing research software packages on a Rocks Cluster in addition to many typical sysadmin responsibilities.
- Built poorly documented and buggy research software from source.
- Communicated and worked with students and research groups in order to meet their research computing needs.
- Learned Python and Django development.

Research Assistant to Dr. Erik Sánchez

May 2013 - Present

PSU Sánchez Nano Development Lab

Portland, OR

- Put a Scanning Electron Microscope online by interfacing a vintage Jeol JXA-6400 SEM and custom image scanning software with node.js, sockets.io and webRTC for remote operation and STEM outreach.

Research Assistant to Dr. Andres La Rosa

September 2012 - Present

PSU Nano-Optics and Structures Lab

Portland. OR

- Implementing a digital image accusation system for a vintage Hitachi S4160 SEM.

Teachers Assistant

September 2012 - Present

Portland State University

Portland, OR

- First quarter teaching PSU's General Physics 202 course.
- Developed two new labs covering micro controllers using Arduino and FPGAs using a Digilent Nexys 3 FPGA card for PSU's Experimental Physics 315 course.

Texbook Development Consultant

January 2012 - July 2012

Cardinal TS

Telecommute

- Provided consultation on mathematics and content interpretation to a team of developers creating a cross platform, web application calculus textbook prototype under contract of Wiley Publishing.
- Developed JavaScript based mathematics demonstrations with no prior JS experience.
- Worked alongside developers following the Scrum development process.

Research Assistant to Dr. C.D. Hoyle

May 2009 - September 2011

HSU Gravitational Research Laboratory

Arcata, CA

- Assisted research to test the Weak Equivalence Principal and gravitational inverse-square law at sub-millimeter distance scales.
- Responsibilities included research and development of lab instrumentation, and software development.
- Managed the scheduling and collaboration tools and Git repository used to organize the students participating in the project.

Research Assistant to Dr. David Kornreich

November 2009

The Arecibo Legacy Fast ALFA Survey

Arecibo. Puerto Rico

- Learned and operated one of the worlds largest radio telescopes, and rapidly introduced myself to using the IDL programming language.

Academic Assistant

January 2009 - May 2011

Humboldt State University

Arcata, CA

- Graded student homework and lab write-ups for an introductory electronics course for ∼60 undergraduate physics and engineering students.
- Responsibilities included understanding the range of solutions to a given problem, applying a grading rubric to the work, entering grades into a database, managing a course wiki and following privacy guidelines.

Skills

Operating Systems, Languages, & Applications

- Fluent: Windows, OS X, Unix, Git, HTML, IRC, Mathematica, LabVIEW, Arduino, LATEX, rbenv/rvm, gem, pip, github, bundler, jekyll, ssh
- Almost There: CSS, JavaScript/Node.js, Python, SVN, Vim, C, virtualenv, travis-ci, rake
- Still Getting Started: Ruby, Haskell, MatLab, Go, Shell Scripts, Assembly, SVN, SQL, MongoDB, Puppet, Ansible

Miscellaneous: Demonstrated proficiency with public communication skills. Excellent troubleshooting and debugging skills. Adept at rapidly learning new languages and application suites. Local and remote collaborative skills. Excels at teaching others. Goal driven.

Github: https://github.com/bcomnes

Education

PhD in Applied Physics (In Progress)

September 2012 - Current Portland, OR

Portland State University

Bachelor of Science in Physics

August 2006 - May 2011

Humboldt State University

Arcata, CA

Publications & Talks

Various IndieWebCamp Demos

2013

Indie Web Camp and OSFW3C

Portland & San Francisco

- Presented Demos of my IndieWeb Projects at OSFW3C, IndieWebCamp 2013 and various hack session in Portland discussing tools and standards that could help enable the decentralized social web.

•	"Sub-millimeter Positioning and Sensing for Short-Range Gravity Tests" Proceedings of the 25th National Conference on Undergraduate Research (NCUR)	$2011 \\ Ithaca, NY$
•	"Studying the Weak Equivalence Principal Below 50 Microns"	2011
	Humboldt State University Physics Seminar	Arcata, CA