Bret Comnes
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Education

- **Masters in Applied Physics (In Progress)** September 2012 - December 2014
  Portland State University *Portland, OR*
- **Bachelor of Science in Physics** August 2006 - May 2011
  Humboldt State University *Arcata, CA*

Experience

- **Academic & Research Computing Systems Administrator & Programmer** May 2013 - Present
  PSU Office of Information Technology *Portland, OR*
  - Web applications and systems programming with Python and Django.
  - Responsible for building, automating, administering and monitoring PSU's research servers and Linux Clusters.
  - Launched a successful user support documentation website to orient new students and faculty to the available research systems.
- **Research Assistant to Dr. Erik Sánchez** May 2013 - Present
  PSU Sánchez Nano Development Lab *Portland, OR*
  - Put a remotely operable Scanning Electron Microscope online by interfacing a vintage Jeol JXA-6400 SEM and custom image scanning software with modern browser APIs like Websockets and WebRTC.
- **Lab Instructor & Teachers Assistant** September 2012 - Present
  Portland State University *Portland, OR*
  - Instructed PSU's General Physics Labs and assisted in the upper division Experimental Physics Labs.
  - Developed two novel labs on the use of microcontrollers and FPGAs covering basic concepts to advanced topics like PID controllers.
- **Texbook Development Consultant** January 2012 - July 2012
  Cardinal TS *Remote in Ashland, OR*
  - 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 cross platform browser based mathematics demonstrations and visulizations.
- **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.
  - Designed and machined custom experimental instruments and developed the lab's data collection, automation and analysis software.
- **Research Assistant to Dr. David Kornreich** November 2009
  The Arecibo Legacy Fast ALFA Survey *Arecibo, Puerto Rico*
  - Trained and operated one of the worlds largest radio telescopes and analyzed the collected data using custom IDL software packages.
- **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.

Publications, Talks & Community Involvement and Leadership

- **W3C Social Web Working Group** — July 2014 - Present
  Invited Expert — *Remote*
- **Code for Portland** — March 2014 - Present
  Organizer & Volunteer — *Portland, OR*
- **"Development of an Online Teaching Field Emission SEM"** — February 2014
  Proceedings of the Oregon Academy of Science — *Eugene, OR*
- **Homebrew Website Club** — December 2013 - Present
  Organizer — *Portland, OR*
- **Bug Triage-A-Thon Winner** — October 2013
  Puppet Labs — *Portland, OR*
- **"Remote Operation of a Scanning Electron Microscope using WebRTC"** — October 2013
  WebRTC Camp — *Portland, OR*
- **"Distributed Social Web Interactions with Semi-Static Websites"** — August 2013
  OSFW3C Workshop on Social Standards: The Future of Business — *San Francisco, CA*
- **IndieWebCamp** — 2013,2014 - Present
  Participant and Organizer — *Portland, OR*
- **Manufacturing and Fabrication for the Sciences Club** — 2013 - December 2014
  Officer — *Portland State University*
- **"Sub-millimeter Positioning and Sensing for Short-Range Gravity Tests"** — 2011
  Proceedings of the 25th National Conference on Undergraduate Research (NCUR) — *Ithaca, NY*
- **"Studying the Weak Equivalence Principal Below 50 Microns"** — 2011
  Humboldt State University Physics Seminar — *Arcata, CA*

Recent Open Source Contributions

- **SEMterface** — 2013 - 2014
  github.com/SEMterface — *Node.js*
  - Enables realtime remote operation and training of a JOEL-6400 Scanning Electron Microscope.
  - Plugin free for the user using a Websockets and WebRTC enabled browser
- **Gitpub** — 2014
  github.com/bcomnes/gitpub — *Node.js*
  - A publishing endpoint for low maintenance static content websites stored in Git.
  - Provides an interface for backfeeding of silo content (i.e. twitter) to a personal static website.

Github: See `https://github.com/bcomnes` for more contributions.

Skills

Operating Systems, Languages, & Applications

- **Fluent:** Windows, OS X, Linux, Javascript, Python, Mathematica, LabVIEW, Git, LaTeX, HTML
- **Almost There:** C, Ruby, bash, Assembly, MySQL, SQLite, Vagrant, autotools, CSS
- **Just Getting Started:** Haskell, Go, Rust, Qt, Postgres, MongoDB, Puppet, Ansible

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