

Career and Projects

2014-Present: AWS System Engineer (jai@)

- Maintained and improved automation framework for system-level network testing
- Worked with testers to automate existing tests
- Trained network QAs in development (git, Python, Amazon ecosystem)
- Built libraries and CLI tools to streamline testing and implement network-lab-as-a-service
- Ported lab network infrastructure to new lab management platform
- Implemented monitoring for network lab

2013-2014: Independent Developer

- Powershame: Precommit to doing work, record timelapse from your desktop, upload it, and send it to your friends to prove you weren't slacking off. Implemented with Flask (site and RESTful API), ffmpeg (rendering), rabbitmq (asynchronous communication between renderer and site), EC2/S3 architecture, cross-platform desktop client, deployments managed with Ansible.
- Timelock - Timed RSA key publication API
- UpdateYourPasswords - one-stop shop for updating passwords and activating two-factor authentication

2011-2013: Democratic National Committee Linux Systems Enginner (2013: Lead)

- Installation, administration, and monitoring for hundreds of servers and applications, including: Vertica clusters for big data analysis, hadoop clusters, web servers (Apache, Nginx), multiple application servers, load balancers, Postgres, MySQL, Mongo DBs, mail servers, high-availability large storage arrays (1TB-1PB range), Xen clusters, VMWare clusters, secure network infrastructure across multiple locations and VLANs, redundant HA firewalls and routers
- Extensive AWS utilization (including EC2, Cloudwatch, S3, RDS, SES, Route 53, IAM)
- Automated deployments using Jenkins, Puppet, shell scripts, and git hooks
 - Deployed projects include: Narwal, CallTool, GottaRegister, <http://democrats.org>, Democrats Abroad, Vote From Abroad, and the DNC online store
- Customized backup and restoration system for servers and DBs
- Built tracking tool to create nightly, browsable snapshots of websites
- 24/7 on-call responsiveness for 800+ monitored metrics, including some custom-built (mostly Nagios)

2008-2010: Appliance Builders Wholesalers Chief Technology Officer

- All IT-related responsibilities for a small company of 50+ users in 4 locations

2006-2007: Undergraduate Research

- University of Chicago, Speech Synthesis for Tonal Language (2007)
- Undergraduate Research: Rutgers DIMACS, Support Vector Machines and Seizure Prediction (2006)

Skills

Linux: 10+ years experience deploying and maintaining servers (CentOS/RHEL and Debian/Ubuntu)

Python: 10+ years experience, including web development (Flask, SQLAlchemy, boto), automation (Fabric), testing (pytest), NLP (NLTK), Math/Data/Analysis (Numpy, SciPy, IPython Notebook)

Misc Languages: Various experience with Javascript, C, C++, Java, with occasional dabbling in other languages (Rust, Go, Nim, Scheme, Julia, Clojure...)

Education

University of Chicago, 2009: BA in Computer Science, focus on Artificial Intelligence and Machine Learning

The most current version of this resume may be found at <https://github.com/jaibot/resume/raw/master/resume.pdf>