

# Alethea Power

[x@ikioi.me](mailto:x@ikioi.me)  
[\(917\) 992-4150](tel:(917)992-4150)  
6540 Morris Ave  
El Cerrito, CA 94530

## SUMMARY

Junior Deep Learning Research Engineer / Senior Distributed Systems Software Engineer excited about neural network interpretability and performance.

## EDUCATION

- **MSc. in Philosophy of Mind** from the [University of Edinburgh](#) (Dec, 2008)
  - Earned a First on my dissertation about neural networks representing human concepts (<https://bit.ly/3fclJ1R>)
  - Served as student representative for Philosophy Department Master's students.
- **B.S. in Applied Mathematics** from the [University of Georgia](#) (May, 2000)
  - Earned As in many graduate level math courses.
  - National Merit Scholar and Strahan Outstanding Junior Math Major
  - Member of Linux and math clubs, lectured for critical thinking club, founded philosophy club.

## TECHNICAL SKILLS

- Deep Learning
- Mathematics
- Pytorch and Python software engineering
- Building large distributed systems (>400K hosts)
- Small Team/Tech Leadership

## WORK EXPERIENCE

- [OpenAI](#) - **Scholar** (Feb 2020 - July 2020)
  - Designed and implemented a project to locate representations of English grammar in GPT-2. (<https://youtu.be/J1rRYpmnUVE>). Built large training datasets for my project with hundreds of thousands of English sentences labeled by grammatical structure. Trained classifiers to detect grammatical information availability at each transformer layer of GPT-2. Identified which attention heads are used in understanding multiple common grammatical structures.
  - Learned Pytorch and deep learning basics.
  - Implemented my own transformer and trained it to a perplexity of 39.9 on Wikitext-102.
  - Supported my cohort in getting their cloud compute environments set up for their projects.
  - Taught a class on transformer architecture and self-attention to my cohort
- [Zendesk](#) - **Staff Software Engineer, Site Reliability** (Oct 2018 - Oct 2019)

- Designed and wrote most of the code for a distributed Auto-Remediation Service, Zendesk ARS. (<https://youtu.be/pe8AuTKt6jo>) ARS consists of about 10,000 lines of Python code, including three network services, many shared modules, an SDK for building plugins, and a CLI.
- Assembled and led a team to help me build and maintain ARS
- Gave a well received public Girl Geek X lightning talk and internal long-form tech talk and class on ARS.
- Defined a new company philosophy of reliability metrics and wrote highly acclaimed internal documents about how to use reliability metrics in ways that better served customers.
- Taught Engineering Onboarding classes about Site Reliability to new Engineering hires, and launched a "Reliability Champions" program to educate interested engineers on reliability in an ongoing format.
- Conducted multiple interviews that led to the hire of two new senior engineers.
- Mentored less experienced engineers in Software Engineering and Site Reliability
- Identified systemic issues with Zendesk's culture around communicating about reliability and helped educate upper management on strategies to solve these problems.
- **Facebook - Site Reliability and Automation Engineer** (March 2009 - Feb 2013)
  - Designed and wrote a distributed auto-remediation service, FBAR (<http://bit.ly/FBEngFBAR>), which became Facebook's first tier response to server-level outages. FBAR automated toil, and improved reliability metrics across all tiers. By the time I left Facebook, **FBAR was managing 450,000 bare metal servers, doing the equivalent work of 600 full time engineers, and saving the company \$50 million / year.**
  - Interfaced regularly with other engineering teams at Facebook to gather feedback and assimilate their needs and pain-points into an evolving product roadmap for FBAR
  - Wrote and maintained user documentation, taught regular training classes on FBAR and other operations systems, ran an internal IRC support channel for FBAR, and built testing and debugging tools for FBAR users.
  - Recruited, trained and led a small team of engineers to maintain FBAR. Performed all product and project management, assigned tasks, handled career development and job satisfaction issues, held regular 1-on-1's, wrote performance reviews and advocated for raises for the people on my team.
  - Helped revamp other struggling Operations Engineering teams, showing them how to tie their product roadmaps to their customers' needs and focus on increasing user engagement, better support, and better documentation.
  - Conducted 200+ job candidate interviews, presented technical talks at Facebook recruiting events, and gave a talk on operations automation at PyCon in Ireland.
  - Contributed to Facebook's custom gender project.
- **Opsware, Inc. - Consulting Engineer** (April 2004 - July 2006 \*)
  - On-site Tech Lead for multiple customer deployments including JP Morgan Chase, Home Depot, The New York Times, and Comcast.
  - Customized Opsware's python-based software deployment system to handle Home Depot deployments across ten thousand thousand servers
  - Advised customers on designing, deploying, and securing Linux servers, networks, and storage.
  - Deployed kickstart-based Linux OS provisioning.
  - Taught "Consulting Engineer Boot Camp" classes on technical fundamentals of systems engineering/administration, networking, and datacenter automation to prepare consulting engineers for field work.
  - Wrote documentation for all on-site customizations.
- **RegistryPro, Inc. - Systems Engineer** (March 2003 - April 2004)
  - Infrastructure Team Lead for .pro DNS registry.

- Designed, procured hardware for, and built Linux-based infrastructure for .pro DNS registry.
- Built tape based backup system
- Implemented monitoring and oncall rotation.
- **Register.com Registry Outsourcing - Unix System Administrator** (Dec 2001 - Oct 2002)
  - Administrated DNS registry for .ag and .sc top level domains.
  - Linux / Solaris System Administration.
  - Performed capacity testing/planning.
  - Developed SAN performance monitoring
  - Installed and administrated NetApp based NFS service.
- **Xenotrope - System Administrator** (May 2001 - Sept 2001)
  - Administrated NFS, NIS, Samba, Apache, Sendmail, Bind, Qpopper.
  - Built OpenBSD based firewall.
  - Implemented IPsec VPN
  - Desktop support for Windows/Linux based office environment.
- **[Soliloquy](#) - Production System Administrator** (Jul 2000 - Mar 2001)
  - Linux system administration.
  - Capacity testing/planning.
  - Wrote data pipeline.
  - Wrote administrative documentation.

**REFERENCES:** Available upon request.

[\\*](#)Note: In the middle of my time with Opsware, I was briefly employed by one of Opsware's implementation partners, a small database automation startup.