

## Professional Experience

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Tower Research Capital 2018 - 2023	Liaison to FPGA development from DevTools Compute Development Platform. Sole developer of specialized dependency management system for FPGA design. Ownership of end to end CI/CD pipelines for hardware simulation on Kubernetes. Managed Kubernetes clusters across bare metal colocated datacenters. Developed Python applications for resource management, automated image creation and production deployment. Managed private GitLab, Gerrit and Gitolite instances for ~30+ trade teams. Ownership of highly available geo-distributed Artifactory instances with ~40 terrabytes of binary and package data. Implemented comprehensive monitoring and backup strategies for critical services.
Addepar 2016 - 2018	Highly available internal toolchain development for machine & environment provisioning, authentication & authorization within an auditable financial platform representing \$500 billion assets under management. Developed Python Flask applications for internal core workflows. Developed Python utilities to parse and process financial data injected for product. Managed compute resources on AWS.
Phoenix Age / Kabam 2013 - 2016	Technical lead of scalable backend infrastructure, and full stack feature development for top grossing, massively multiplayer mobile games of 15+ million users. Developed Chef cookbooks for automated deployment and scaling of production game environments on Google Cloud.
DuckDuckGo 2011 - 2013	Developed and managed open source repositories hosted on GitHub, responsible for responding to pull requests. Added features to and maintained the DuckPAN platform. Implemented business driven integrations with companies such as ESPN and Amazon. Wrote internal services and development tools, servicing ~4 million daily users. Managed compute resources on AWS.

## Technical Skills

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Languages	Python, Perl, Ruby, PHP, Objective C, C, C++, Javascript, Java, Shell, SQL, Haskell
Software Packages	NGiNX, Apache, MySQL, MariaDB, Postgres, Vertica, Couchbase, Redis, Memcached, Nagios, Sensu, Ganglia, Wavefront, Sumologic, BIND, ACME, Postfix, Dovecot, Chef, Gitolite, Gitlab, Gerrit, Salt, Docker, Conda, Kubernetes, Artifactory, Vault, Grafana, Prometheus

## Personal Projects

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nasm-demonstration	64 and 32 bit Netwide Assembly demonstration, in the form of a needlessly complicated hello world featuring a branch, macro and function.
powermate	I wrote this Haskell program to control Alsa, MPD and Pianobar with a Griffin Powermate, binding arbitrary shell scripts to physical gestures. It is available in the Arch User Repository.
matrixnullspace.com	A web application written in Python to calculate the null space, eigenvalues and determinant of a given matrix.