

# Seth J. Rothschild

Citizenship: USA

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## Summary

Research and Development Software Engineer with Ph.D in Mathematics and five years experience exploring new technologies and communicating with executives. Excels at learning, solving hard problems, gathering requirements, and delivering the right code on time. Looking for technical leadership roles to solve hard problems with smart people.

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## Experience

**R&D Senior Software Engineer** | Dell Technologies Office of the CTO 2018-Present

- Executed research agenda on emerging technologies and taught Dell about them
  - 4 granted patents, 11 patents pending in Security, Data Management, AI/ML, Quantum Computing, and UX
  - Authored internal research reports and presented to Research Office VP
- Recognized as research leader at Dell Technologies
  - Reviewed IP disclosures as member of Pan-Dell patent committee (since 2020)
  - First person from Dell or EMC nominated and accepted to highly competitive Frontiers of Engineering conference by the National Academy of Engineers
  - Mentored team on project design to drive research outcomes and deliver on time
- Architected more than 30 different prototypes and production tools
  - Designed MVPs to prove idea viability alongside internal webapps used by hundreds of senior technical employees
- Drove on-premise DevOps tooling and adoption
  - Managed our team's 6 servers and devised SSH access controls to improve both security and ease-of-use
  - Expert on environment setup, SSO, certificates, firewall and enterprise issues
  - Transitioned team to GitLab pipelines and containers for software development
- Evangelized and encouraged software engineering best practices
  - Taught Extreme Programming Agile practices like TDD, pair programming, CI/CD and constantly pushed for iteration and improvement in our practices
  - Helped to re-design our team's interviews to be fair, kind, and consistently generate information the team needed to make a decision

**Research Scientist** | Feature Labs Inc. 2017-2018

- Represented MIT in D3M, a DARPA project for automated ML discovery by SMEs
- Researched and advised on in-house feature selection methodology
- Contributed to *Featuretools* project (6k stars on GitHub)

**Teaching Assistant** | Tufts University 2012-2017

- Awarded *Graduate Institute for Teaching Fellowship* 2015 (20 selected annually)
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## Publications

### Publications

- Rothschild, Perlman, and Robbins “Method and system for encrypting and decrypting secrets using escrow agents” *Patent US20220173903A1* (Published 2022)
- Rothschild, Santaus, Nieves, and Perlman “Secure password log in on insecure devices” *Patent US20220239699A1* (Published 2022)
- Rothschild, Robbins, and Reineke “Random walks to detect dissimilar records” *Patent US20220292305A1* (Published 2022)
- Rothschild, Seth J., and Robbins, Alex, “Continuous video generation from voice data” *Patent US11553159B1* (Granted 2023)
- Durazzo, Rothschild, and Fong “Quantum compute estimator and intelligent infrastructure” *Patent US11550696B2* (Granted 2023)
- Rothschild, Perlman, and Robbins “Method and system for verifying secret decryption capability of escrow agents” *Patent US11509468B2* (Granted 2022)
- Robbins, Alex and Rothschild, Seth J., “Automated key management for remote devices using single sign-on techniques” *Patent US11489824B2* (Granted 2022)
- Rothschild, Seth J., “Unipotent Algebraic Groups” (2017). *ProQuest Dissertations Publishing, 2017.*
- Rothschild, Seth J., “The number of ways to write  $n$  as a sum of  $\ell$  regular figurate numbers” (2012). *Syracuse University Honors Capstone Projects.* Paper 149.

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## Skills

### Software Skills

- Languages: Python (Authlib, Django, PyCryptodome, Flask, Pillow, OpenCV, Tkinter, Urllib3, Mypy, Requests, Bokeh, Click, Hypothesis, Black, Pytest, TensorFlow, PyTorch, Keras, Dask, SciKit-Learn, Flake8, JupyterLab, Featuretools, Sphinx, Pandas, SciPy, NumPy), Go (SQLBoiler, GORM), JavaScript (React/Redux, Svelte, Elm, Vue), C, R, SQL
- DevOps: Gitlab, Docker, Concourse, PCF, vSphere, ESXi, iDRAC (racadm, redfish), Bash, Cypress, Caddy, K3s, Kubernetes, Ansible, NGINX, AWS
- Life: Emacs, Git, Linux, LaTeX

### Selected Public Projects

- *contacts\_info*: A Django personal CRM to track milestones and events with friends
- *wordle\_strategy\_evaluation*: A Wordle implementation in Python to score strategies
- *goban\_irl*: Go board state reader to copy physical board into a computer in real-time
- *alteryx/henchman*: A Python data visualization and ML utility library

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## Education

### Doctor of Philosophy, Mathematics | Tufts University 2017

- President - Organization of Graduate Students in Mathematics (OGSM) at Tufts

### Bachelor of Science, Mathematics | Syracuse University 2012

- Minor in Physics, Renée Crown University Honors Program