

## EXPERIENCE

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- **Fractal** Remote (HQ Berlin)  
*Head of Protocol* *April 2021 - July 2022*
  - **Protocol:** The Fractal Protocol is a greenfield web3 project to improve user data privacy while providing access to that data to websites that did not generate that data. I defined the interface, architecture, and technical operation of the protocol. I was initially hired to be the tech lead for the project, but was promoted to being in charge of the whole project after a few months. I managed a team of 4 people.
- **Google** Pittsburgh, PA  
*Software Engineer Level 4* *October 2018 - April 2021*
  - **Shopping Product Curation Tools:** Shopping Product Curation Tools builds tools for human operators to manually improve the quality of Google Shopping's product data. I built a task assignment system that processed O(10,000) assignments / day with zero latency from submission to potential assignment. I also designed and built a system to use simple high-scale operator judgements to determine if two retailer offers were for the same product.
- **51** Midlothian, VA  
*Co-Founder* *January 2017 - September 2018*
  - **Interactive Spaces:** Interactive Spaces is a suite of software and hardware that allows escape room designers to integrate electronics into their escape rooms easily with previously impossible features included.
  - **Warehouse 29:** A VR/Live Action/Escape Room experience. Players fight a sentient AI that has taken over a VR museum dedicated to Edgar Allan Poe. I built all of the VR gameplay and management infrastructure.
- **Google** Mountain View, CA  
*Software Engineer Level 4* *June 2015 - March 2017*
  - **OneDiff:** OneDiff is a Google internal tool for diffing large batches of structured data. I worked on the frontend visualization, focusing on rendering and presenting >10GB diffs so that other engineers could understand how their data changed.
  - **Process Consulting:** OneDiff was routinely lauded for responsiveness to feedback from internal stakeholders due to my efforts. I was regularly asked to consult on other teams to help improve their process.
- **Pivotal Labs** Mountain View, CA  
*Software Engineer* *June 2014 - June 2015*
  - **Samsung Milk Video (Following Feed):** When I joined the Milk Video project, the following feed always had at least 4 engineers triaging defects and performance issues. With dedicated disagreement and straightforward engineering, I was able to dramatically simplify the whole system to zero defects and able to handle new features quickly.
  - **Barnes & Noble NookPress:** Print-on-demand service allowing people to order 1-1000 copies of a custom printed book.
  - **Hawq (Development Tools):** Built CI infrastructure to reduce effort of manual maintenance.
- **AgilQuest** Richmond, VA  
*Software Engineer* *Oct 2013 - June 2014*
  - **Forum:** Cloud-based booking software for workspaces, and meeting and conference rooms.

## EXPERTISE

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- **Software Engineering Process:** Extreme Programming, Continuous Integration, Continuous Delivery, Pair Programming, Standups, Retrospectives
- **Programming:** Algorithms, Data Structures, Web Development, Distributed Systems, Databases
- **Languages:** Rust, JavaScript, Java, Ruby, SQL, HTML, CSS, C++, C#
- **Technologies:** Substrate, Angular, PostgreSQL, Rails, Docker, Git, Godot, Unity3D
- **Artificial Intelligence/Machine Learning:** Neural Networks, Reinforcement Learning, Genetic Algorithms, Keras
- **Blockchains:** Cryptography, Bitcoin, Blockchains