Jesse Farnham, Ph.D.

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EXPERIENCE

- **Citadel** Greenwich, CT
  Lead Quantitative Developer, Commodities Apr 2020 – present
  - **Technical Lead, Citadel Energy Marketing**: Lead a team of five to develop a platform for modeling, pricing, and analyzing OTC structured commodity derivatives, including gas, power, and heat rate options. Enable buildout of support for new deal models and regional book purchases. Collaborate with portfolio managers, quants, and engineering teams to define strategic technology goals and support day-to-day business needs of the structured power, derivatives origination, environmental products, principal investments, and precious metals trading desks.
  - **Technical Lead, Gas Basis Trading Desk**: Developed natural gas supply/demand model analytics and visualizations in collaboration with desk analysts. Developed a new modeling platform that improved model runtime by 60%. Managed one junior developer.

- **AQR Capital** Greenwich, CT
  Quantitative Developer, Global Asset Allocation Oct 2013 – Jan 2020
  - **Technical Lead, Economic Model Deployment**: Led a team of four to design a new versioning and deployment system for trading model configurations.
  - **Chair, Code Quality Working Group**: Chaired working group of eight colleagues tasked with issuing recommendations on improving quality of the Research Engineering codebase.
  - **Intraday Trading Platform**: Developed AQR's first cloud backtesting framework on AWS; order generation interface to firmwide order management system; and webservice framework for performance attribution and volatility reporting.
  - **Distributed Compute Modernization**: Conceived, prototyped, and developed a stable, scalable distributed compute framework for research and production batch jobs.
  - **Education and Outreach**: Co-created the "First Semester Tech Series," a lecture series to teach new researchers computer science and software engineering basics. Created a computer science interest group for occasional discussion of relevant topics. Ran "Python Office Hours" to help researchers improve coding skills.

- **Google, Inc.** Mountain View, CA
  Software Engineer Intern Jun 2012 – Sept 2012
  - **Biological data standardization pipeline**: Built an ETL pipeline for biological datasets to improve efficiency of bioinformatics research.

LANGUAGES AND TECHNOLOGIES

- **Current**: Python, pandas, SQL, Redis, Kafka, Linux

- **Past**: AMPL, Flask, Docker, SQLite, HTCondor

EDUCATION

- **Princeton University** Princeton, NJ
  Ph.D. in Computer Science
  - **Research topic**: Identified relationships between protein physical interaction networks and gene expression

- **Wesleyan University** Middletown, CT
  B.A. Computer Science and Molecular Biology; GPA: 3.96; CS GPA: 4.0
  - **Honors thesis topic**: Improved computational efficiency of tumor development simulations