Cameron Pfiffer, PhD

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Summary

I have seven years of writing well-tested, high performance statistical and ML software in both academic and professional settings. I am a long-time Julia developer. I have many open source contributions, but I am primarily known as a core developer on the Julia probabilistic programming language Turing.jl. Additionally, I have been working my generative AI startup for nearly a year, and consider myself to be reasonably well-versed in the AI/ML landscape. I am familiar with working in distributed computing environments and processing large amounts of data (>20tb).

Experience

Founder
mindco

Aug 2023 - Present (10 months)
- Founded of comind, a communal thinking tool, knowledge graph manager, and AI playground.
- Designed systems to handle distributed LLM compute, retrieval augmented generation, and semantic search.
- Built multiple frontends in React, NextJS, and Flutter (separately).
- Constructed large-scale relational databases to track user knowledge graphs.

Postdoctoral Researcher
Stanford University Graduate School of Business

Sep 2022 - Present (1 year 9 months)
- Developed high-performance statistical models to infer consumer willingness to pay for news content
- Processed 18 TB of data using custom BigQuery pipeline for analysis
- Contributed computational infrastructure to estimate complex bid functions for auction-based bridge construction
- Optimized probabilistic model for insurance market analysis, increasing performance by orders of magnitude
- Created parallelized bootstrapping pipeline for efficient statistical inference

Research Engineer
Turing.jl

Sep 2018 - Jan 2024 (5 years 5 months)
- Core developer on Turing.jl, an open-source probabilistic programming language (2k+ GitHub stars)
- Implemented high-performance Metropolis-Hastings algorithms, enhancing library efficiency and scalability
- Led significant refactoring of user interface, improving usability for researchers and developers
- Contributed to software used by Scottish Covid Response Team for epidemiological modeling

Software Developer
ACA Group

Jan 2018 - Aug 2018 (8 months)

- Transitioned to the software team after the company found out I had been writing VBA macros to automate my job, slashing my billable hours nearly in half.
- Wrote custom software in C# for our firm to use per client, reducing billable hours for current and future engagements by 10-30%.
- Saved the firm thousands of dollars per engagement by reducing billable hours significantly.
- Designed and implemented an anomaly detection system to flag portfolios with suspicious investment activity.

Education

University of Oregon Lundquist College of Business

Doctor of Philosophy - PhD, Finance

2018 - 2022

- My research focused on asset pricing, market microstructure, algorithmic trading, and models of information flows.
- Developed a Bayesian model to evaluate the role of fundamental firm performance in understanding the macroeconomy, utilizing high-performance computing tools in cluster computing environments.
- Designed and implemented a data pipeline for cleaning and performing distributed inference on terabytes of supermarket point-of-sale data.

Henley Business School

Master of Science (MSc), Corporate Finance

2016 - 2017

- Utilized programming languages such as R, Python, Octave, and Matlab to process and analyze large amounts of financial data for research and personal projects
- Studied algorithmic trading and market making models, demonstrating an interest in applying quantitative methods to financial problems
- Collaborated with top executives at a major international bank in London on a research project, showcasing the ability to work on complex, real-world problems in a professional setting

Southern Oregon University

Bachelor of Science (B.S.), Technical Theater

2013 - 2016

- Studied diverse disciplines including technical theater, accounting, finance, and computer science
- Gained expertise in implementing and troubleshooting large-scale entertainment rigs, involving engineering, project management, and creative skills
- Developed proficiency in accounting principles (GAAP, IFRS), financial analysis, and computer science topics such as networking, programming, and machine learning

Skills

Distributed Systems • Economics • Statistical Computing • Probabilistic Models • Software Development • Machine Learning • SQL • Causal Inference • Rowing • Piano