Evan Friis

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Summary

I’m a technologist that likes to build things that have value, whether that is high-level design and APIs, or hyperoptimizing the hot path. I’ve spent my career building tools, teams, and platforms that increase the impact of prototypes/research projects by turning them into production-grade systems that are simple, reliable, and grow with grace. I think technical leaders make better decisions and build happier teams when they are close enough to the code to smell it, and that software is more fun when its purpose is clear, and the code is simple, clean, and performant.

Work Experience

Google (2013-Present, Los Angeles)

Senior Staff Software Engineer (2022-Present)
Staff Software Engineer (2020-2022)
Senior Software Engineer (2017-2020)

Google Assistant, NLU Platform Infrastructure (2020-Present)

Currently, I serve as the uber tech lead for evolving the Assistant infrastructure and developer platform to leverage LLMs to improve user experience in Google Home and Nest devices. My work has focused on enabling developers to use LLMs to solve previously intractable quality problems while maintaining low latency and enabling reuse of existing APIs and a decade of edge-case engineering via RAG and tool-use. https://blog.google/products/google-nest/gemini-google-home/

- Tech lead for a multi-tenant platform that un-spaghettifed Assistant Natural Language Understanding (NLU).
- Scaled NLU platform from zero to 30+ client teams serving 30k QPS, leading the NLU piece of a multi-year Assistant-wide initiative to migrate all feature code behind well-defined APIs.
- Factored advanced NLU retrieval algorithms into simple microservice building blocks to improve reliability, data security, reusability, and developer velocity.
- Built a friendly platform and clean APIs to enable NLU development by regular SWEs instead of linguists, removing a years-long staffing bottleneck.
- Worked with NLU researchers to enable experimentation within a principled platform, and a path to bring winning ideas into production without creating tech debt.
- Infrastructure tech lead on efforts to leverage LLMs to improve Assistant. Successfully shifted entire Assistant organization strategy and roadmap to enable LLMs to interface with existing APIs to cut months off the launch timeline.
- As TL and interim manager, I built a happy, chill culture of excellence and developed successful ICs. 75% of the ICs on my teams have been promoted thus far for work I supervised, and only two team members have departed in the last 10 years.
- Business impact: simplification and consolidation have driven CSAT and latency wins across many features, Assistant is a cornerstone of new Google hardware launches, and semantic APIs are enabling new LLM integrations via RAG and tool use.

Google Insights Finder (2013-2020)

- Backend tech lead for a consumer insights product used by internal sales teams and large Google advertisers and marketers.
- Scaled custom data science sales analyses that were key revenue drivers for the highest-spend customers by

building an interactive, low-latency, customer-facing production system by building pipelines that continuously indexed petabytes of Google user data and a distributed backend to query, aggregate, and describe arbitrary groups of users from a 3B user corpus with sub-second latency.

- Scaled large pipeline (4PB of shuffle) from monthly releases with manual QA to daily automated pushes via optimization, incremental updates, and development of automated data quality measurements.
- Worked with product, go-to-market, and external customers to learn their problems and underlying needs firsthand.
- Built state-of-the-art anonymization and brand safety algorithms and systems.
- Led the external launch of Insights Finder to advertisers, previously an internal tool that relied on sales people to intermediate and sanitize the results. External usage of Insights Finder is still growing 75% YoY.
- Persuaded leadership stakeholders including data owners, product, legal, public relations, and privacy that the external launch of Insight Finder would create advertiser utility from user data safely and ethically.
- Business impact: Insights used in $3B+ ARR of Google advertising campaigns, highest CSAT (90%) of all Google sales tools. Insights Finder was used to help pick the cast of the Dune movie!

Large Hadron Collider (2006-2013)

University of Wisconsin, Madison (2011-2013)

Postdoctoral Physics Researcher (Wisconsin & Geneva, Switzerland)

- Author (among many) on Higgs Boson discovery paper, editor for the Vector-Boson Higgs paper.
- Designed embedded algorithms and control systems for calorimeter trigger, based on the Microblaze FPGA platform.
- Built a data analysis platform to support UW’s physics analyses of LHC data, used for 7 years after I left.
- Convener of Tau Physics Object Group, organizing physics efforts across multiple university groups and labs.

University of California, Davis (2006-2011)

Grad Student Physics Researcher (Davis & Geneva, Switzerland)

- Release maintainer and contribution coordinator for Tau (particle) identification and reconstruction software.
- Developed Neural-Network based Tau identification algorithm.
- Developed calibration and noise characterization software for silicon pixel detector (124M channels).

Education

- 2011 Ph.D. in Experimental High-Energy Particle Physics, UC Davis
  - Thesis: Search for Neutral MSSM Higgs Bosons Decaying to Pairs of Tau Leptons
  - Developed a novel geometric dynamical likelihood algorithm for reconstructing Higgs Boson mass in Tau decays.
- 2005 B.S. in Physics, UC San Diego

Skills

- Fluent in C++, Python, Go, SQL, Pandas, data visualization.
- Petabyte scale ETL pipelines. Contributed library that makes doing complex “side-lookup” data joins easy and performant, used by hundreds of pipelines across all Google product areas.
- Have written/read a lot of C++. 200k LOC of changes at Google, code reviewer for 570k. Readability (styleguide) volunteer mentor, reviewed over 2000 changelists (pull requests).
- Designing APIs that are fun to use, creating distributed system designs, conducting production monitoring, ensuring differential privacy, and visualizing data.
- Optimized lots of Google C++, Go, and ETL code and saved 10k+ cores.

- Turning big dumpster fires into many smaller dumpsters, and only a few of them are on fire.