Chris Harman

Senior Software Engineer
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I've spent over a decade building software where failures have real consequences: FDA-regulated implants that control electrical current in patients' brains, structured loan portfolios worth billions, and now research infrastructure for experimental cancer data. I learn domains quickly, find where the team is stuck, and automate or eliminate pain points to significantly accelerate teams. I (work with Claude to) write code meant to be read.

WORK EXPERIENCE

Senior Software Engineer | Netrias — Jan 2024 – Present

Data Harmonization – ARPA-H Biomedical Data Fabric: [Python, OpenTofu, Claude]
- Created pipeline accelerating cancer metadata harmonization conservatively enabling the capture of millions of experimental scientific data points that would otherwise never reach the public record

Model Training Loop – ARPA-H Biomedical Data Fabric: [Python, OpenTofu, Claude]
- Architected retraining infrastructure that keeps harmonization models current as data standards evolve, eliminating dozens of researcher hours per month needed to update models

Arbitrary Sandboxing – NIAAA: [Python]
- Developed Jupyter notebook to Docker image builder that lets researchers share reproducible experiments eliminating hours spent reconciling differences in local environments while also exposing parameter controls through a dynamically generated UI

Senior Software Engineer | ZAIS Group — Jul 2022 – Jan 2024

Embedded Search – Data Analytics Team: [Python/Airflow]
- Built embedding-based document search for financial disclosures, cutting analyst search time by 10–100x

CLO Data Pipeline – Data Analytics Team: [Python/Airflow]
- Built configurable pipeline aggregating data from multiple vendors and computing loan-level metrics across $4.6B in assets

CLO Financial Model – Software Consultant: [Python, Azure]
- Added horizontal scaling and migrated financial model to AWS, achieving 250x speedup

Senior Software Engineer | Medtronic — Jan 2015 – Jun 2022

Percept – Deep Brain Stimulation Team
- Built Android therapy control system for a new deep brain stimulation platform; product contributed to double-digit quarterly revenue growth
- Led therapy control software team; wrote core stimulation control features
- Owned application architecture from UI layer through device telemetry
- Partnered with neurologists and nurses on UI design and clinical workflows

Prototype – Deep Brain Stimulation Team
- Built the Android clinician app for a multi-system deep brain stimulation prototype; successful proof-of-concept avoided $50M+ in alternative development costs
- Led cross-team performance characterization, driving a 3x system speedup

Activa – Deep Brain Stimulation Team
- Shipped Android therapy control software for deep brain stimulation implants, meeting FDA submission deadline
- Redesigned telemetry layer to improve error handling and accelerate team development velocity
- Built custom dependency injection framework to eliminate third-party compliance risk

Symptom Tracker – Digital Health Team
- Built core symptom-tracking functionality and bidirectional data sync for a new patient platform (Android/Spring)
- Introduced Kotlin to the department; the pilot influenced adoption across multiple multi-million dollar projects
- Wrote department-wide Java/Kotlin coding standards focused on patient safety and code clarity

SIDE PROJECTS

Claude Code Orchestrator — Multi-agent coordination layer for parallel agentic coding across repositories
Codebase Visualizer — Static analyzer rendering codebases as 3D planetary systems
Historical Conversations — Chat app where users talk to historical figures, with responses grounded in their writings via RAG

EDUCATION

- B.S. in Computer Science | University of Minnesota (Aug 2012 – Dec 2014)
- B.A. in Physical Sciences | Bethany Lutheran College (Aug 2009 – Dec 2014)