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AARON CHAN

EMPLOYMENT

Harvey   February 2024 - Present
Senior Engineer, Applied AI Research   *San Francisco — New York City*

· Crafted cascading traceable text retrieval system that powers Harvey Citations, which serves nearly all product surfaces.
· Spearheaded CitationBench (an evaluation framework for citations), orchestrated human data collection at scale and drove 37 percentage point gain in precision and recall.
· Led engineering for flagship cobranded Antitrust Filings workflow with key customer Allen & Overy Shearman, showcased at Microsoft Build Conference in 2024.
· Researched and productionized novel technique for LLM manipulation of Word .docx format through creating and integrating multiple robust bidirectional schema transformation layers.
· Partnered with OpenAI for finetuning of custom models for citations using RLHF, including creating in-house training pipelines and synthetic data generation strategies.
· Implemented first version of multi turn Assistant Chat with Knowledge Sources (serves 98% of customer traffic), comparing favorably in latency and quality to legacy Harvey platform.
· Prototyped and drove to GA several workflows, including memo analysis, transcript theme extraction and summarization, in-place PDF translation, audio transcription, redline issue detection and summarization. Partnered across organization to unify underlying execution platform into the Workflows Engine to optimize execution speed and minimize maintenance.

Microsoft Research   September 2021 - February 2024
AI/ML Software Engineer, Developer Division + Github Copilot   *Remote*

· Filed 7 provisional patents as (4 as primary inventor, 3 as secondary inventor) for AI Security inventions below.
· Architected the Github Copilot Evaluation Framework used by Github Copilot extensions for VS Code, Visual Studio and IntelliJ.
· Custom trained model for detecting security vulnerabilities in Github Copilot suggestions with ¡15ms latency, demoed for Microsoft CEO Satya Nadella.
· Led development of LLM-based AI tools for fixing bugs via automated PRs, shipped across 5+ organizations at Microsoft.
· Led, patented, and shipped Azure Powershell Predictive Intellisense during Summer 2020 internship.

Facebook   Winter 2020
Software Engineer Intern, WhatsApp Chat Infra   *Menlo Park, CA*

· Designed a distributed testing framework to reduce test time by 95% for multi node tests.
· How good is WhatsApp message temporary storage reliability? Built a cross-service distributed algorithm that measures real-time redundancy in WhatsApp systems that scales to more than 100 billion messages per day.

EDUCATION

Brigham Young University   **2015 - 2021**
B.S. Computer Science, B.S. Statistics   *GPA: 4.0, Summa Cum Laude*

· *Thomas S. Monson Presidential Scholarship*
· *Technical Skills:* Python, C++, C#, Java, Node/Javascript, R, SQL, Emacs Lisp, Bash
· *Activities:* Co-founder Data Science Club (200+ members); Co-founder of Commercial Space Club (NASA finalist team);
· Per Origami Ad Astra (2020) - undergraduate finalist paper representing BYU in NASA national SPOCS competition
· Project Hacker Studio (2020) - Best in Category Hacklarious Hackathon (National MLH competition, 200+ teams)
· Top 10 ACM ICPC Rocky Mountain Region 2019

PUBLICATIONS & TECHNICAL PAPERS

· **Copilot Evaluation Harness: Evaluating LLM-Guided Software Programming**: Anisha Agarwal, Aaron Chan, Shubham Chandel, et al. 2024. Microsoft Research.
· **Transformer-based Vulnerability Detection in Code at EditTime: Zero-shot, Few-shot, or Fine-tuning?**: Aaron Chan, Anant Kharkar, Roshanak Zilouchian Moghaddam et al. 2023. Microsoft Research.
· **TRACE: A Differentiable Approach to Line-level Stroke Recovery for Offline Handwritten Text**: Taylor Archibald, Mason Poggerman, Aaron Chan, and Tony Martinez. ICDAR 2021. BYU Neural Networks Research Lab.