Aman Choudhary

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https://amanchoudhary2020.github.io/portfolio/

Education

University of Michigan, Ann Arbor **August 2020 – December 2023**
Bachelor of Science in Engineering in Computer Science *GPA: 3.77/4*
Coursework: Distributed Systems, Natural Language Processing, Computer Vision, Operating Systems, Web Systems, Machine Learning, Computer Security, Computer Architecture, Linear Algebra, Multivariable Calculus, Advanced Probability

Technical Skills

Programming Languages: C++, Python, Rust, JavaScript, Scala, MATLAB, SQL, Java, HTML/CSS
Libraries/Frameworks: (ML/AI) TensorFlow, Keras, scikit-learn, NLTK, PyTorch, OpenCV (Full Stack) React, Flask, Next.js, Node.js, Cordova
Software Development Tools: Git, Docker, AWS, Unix, NGINX, CI/CD

Work Experience

Deepgram, Inc. **May 2023 – August 2023**
Software Engineering Intern *San Francisco, CA*
- Created an automated CI/CD pipeline with GitHub Actions to run a suite of Rust tests against new releases of automatic speech recognition engine, increasing confidence in release process and reducing deployment speeds 2.5x
- Expanded coverage of test suite by writing a Rust crate to evaluate ASR transcription quality, using a REST API server I built with Flask, served by NGINX, and deployed on Docker to serve cached data for calculations
- Researched inference engine optimizations to speed up inference runtimes 1.3x with similar accuracy

Criteo Co. **May 2022 – August 2022**
Software Engineering Intern *Ann Arbor, MI*
- Developed a Spark pipeline written in Scala to improve monitoring of data quality of retail media advertising events, storing real-time updates in Hive databases and updating metrics dashboards
- Tuned Spark performance to optimize the run time of a suite of Spark jobs that process large-scale advertising event datasets on an hourly basis

Trashbots Co. **June 2021 – August 2021**
Software Engineering Intern *Austin, TX*
- Integrated new features to their web-based application with JavaScript and Cordova, empowering the platform to teach programming concepts like looping and object-oriented programming to 1500 K-12 institutions across the United States
- Updated MicroBit-based robot compatibility for new firmware with C++ to ensure seamless compatibility between app and robot across product updates

Campus Activities

Michigan Vision Lab **January 2023 – Present**
Visiting Researcher
- Exploring methods to produce accurate and robust camera pose estimates for applications involving structure from motion (SfM)

Michigan Hackers Team **August 2021 – December 2023**
Machine Learning Team Lead
- Create and teach presentations for 70+ beginner members about fundamentals of machine learning
- Leading team of 15 experienced members on a text summarization project, using deep learning methods involving sequence-to-sequence modeling to summarize articles

Predicting News Reader Feedback with Deep Learning **August 2021 – April 2022**
Undergraduate Research Opportunity Program (UROP) Researcher
- Performed linguistic analysis of questions and comments on social media posed to new stories, to help news organizations anticipate information needs of their audiences
- Developed and tested regression, SVM, and LSTM models for predicting audience engagement on news articles using scraped social media data related to major news organizations

Projects

Search Engine: Built a scalable search engine using PageRank ranking system, a segmented inverted index of scraped web pages created with Hadoop framework, and a distributed system for determining search results
Operating System: Wrote a thread library, virtual memory pager, and networked file system with C++

Extracurriculars: Private Guitar Instructor, Michigan Jam Club, V1 Entrepreneurship, Michigan Mars Rover Perception Team (2020-21)