

# 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: 3.82/4*

**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 catch statistical regressions in transcript quality, using a REST API server 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

### Diagnostic Intelligence Augmented for Global Health (DIAG)

January 2023 – Present

*Data Engineering, Modeling, and AI Researcher*

- Currently exploring deep convolutional neural networks for automatic classification of bladder cancer whole-slide images using the inception v3 architecture by Google

### Michigan Hackers Team

August 2021 – Present

*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 various 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)