

PRATIM CHOWDHARY

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Education

DARTMOUTH COLLEGE

B.S Computer Science & Mathematics Minor, **Major GPA: 3.84/4.0**

Hanover, NH

September 2021- June 2025

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|-------------------------------------|--------------------------------------|-------------------------------------|
| ■ COSC 34: Randomized Algorithms | ■ MATH 22: Applied Linear Algebra | ■ COSC 57: Compilers and Design |
| ■ COSC 62: Applied Cryptography | ■ MATH 28: Intro to Combinatorics | ■ COSC 50: Software Design & Impl' |
| ■ COSC 74: Machine Learning & Stats | ■ MATH 60: Honors Probability Theory | ■ COSC 89: Deep Learning Robustness |

Skills

Languages: Python, C++, Java, C, Bash

Skills & Libraries: Competitive Programming, Algorithm Design, Data Processing, Machine Learning , Multithreading / Concurrency, Linux, AWS (EC2, Lambda, S3, SQS), Numpy, PyTorch, Pandas, HuggingFace

Professional Experience

Susquehanna International Group (SIG)

Philadelphia, PA

Software Engineer Intern

June 2023

- Incoming developer on Strategy Innovation team, using Python and C# to implement trading strategy

Dartmouth Machine Learning Lab

Hanover, NH

Research Assistant

December 2022 - Present

- Worked with NLP Lab under the guidance of a graduate student to research implicit bias in the training of GPT models
- Built stereotype detection model using BERT / Pytorch and used it to perform targeted adjective substitution on StereoSet to analyze effects of various prompts on model predictions (i.e how certain words affect stereotypically of sentences)

TakeOut7 (Integrated Online Ordering)

Hartford, CT

Software Engineer Intern

June 2022 - September 2022

- Built an application to automate deployment of static websites for restaurants on AWS, using lambdas to register domains, load media content into S3 buckets, secure SSL certificates and deploy CDN on CloudFront
- Eliminated manual tasks and reduced the time to deploy customized websites from over a week to less than a day, saving thousands in marketing costs for 100+ restaurants in the Hartford, CT area

DALI Technical Lab

Hanover, NH

Software Engineer

December 2021 - November 2022

- Led backend development in a team of seven for two production cycles, eventually deploying an application used by emergency room residents to aid in patient diagnosis at the Dartmouth Hitchcock Medical Center
- Used Flask to build API routes with MongoDB database integration for low latency object storage and JWT tokens for secure request handling deployed on the Heroku Cloud

Dartmouth Machine Learning Group

Hanover, NH

Machine Learning Engineer

January 2022 - June 2022

- Built a data pipeline for cleaning and extracting useful features from a dataset of over 1 million loans spanning 3 decades
- Researched multiple machine learning models including linear, forest, and neural network and eventually shipped a loan prediction model to Advantage Capital with a 90%+ overall accuracy

Academic Projects

Project Euler (C++) - Solved Collection of Challenging Mathematical / Computational Problems

- Used dynamic programming, graph theory, linear algebra, combinatorics / probability theory, linear algebra etc to solve and optimize 50+ computational problems with highest difficulty problems having under 5000 accepted solutions

EC26 Art Exchange (Python) - Real Time Trading Platform

- Architected and implemented trading platform complete with order matching used concurrently by 50+ students
- Built backend API using web sockets and atomic operations to match orders in real time and display live user portfolios, capable of handling over 100 transactions per second

Shared Canvas (Java) - Synchronized Canvas for Collaborative Drawing

- Implemented a shared canvas using web sockets for streaming canvas state data across up to 10 concurrent users
- Used multi-threading to load and transmit canvas states concurrently with locks to protect against data corruption

Activities / Extracurriculars

COSC 31 Teaching Assistant - Algorithms Design and Analysis

March 2023 - Present