

PRATIM CHOWDHARY

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Education

DARTMOUTH COLLEGE

B.S Computer Science & Mathematics, **GPA: 3.7/4.0**

Hanover, NH

September 2021- June 2025

- COSC 31: Algorithm Design and Analysis
- COSC 62: Applied Cryptography
- COSC 74: Machine Learning & Stat Analysis
- ECON 26: Financial Markets & Intermediaries
- MATH 28: Combinatorics Theory
- MATH 60: Honors Probability Theory

Skills

Languages: Python, C++, Java, C

Technologies & Libraries: Operating System Design & Internals, Multithreading / Concurrency, Linux, Networking, MongoDB
AWS (EC2, Lambda, S3, SQS), Numpy, PyTorch, Pandas, HuggingFace

Professional Experience

DARTMOUTH MACHINE LEARNING LAB

Research Assistant

Hanover, NH

November 2022 - Present

- Research Title: "Interpreting deep learning models in natural language processing" (data collection phase)
- Coded web-page crawling and parsing scripts to collect millions of data points from online forums

TAKEOUT7 INTEGRATED ONLINE ORDERING

Software Engineer Intern

Hartford, CT

June 2022 - September 2022

- Built application to automate deployment of static websites for restaurants on AWS, using lambdas to register domains, load content into S3 buckets, secure SSL certificates and deploy CDN with CloudFront
- Eliminated manual tasks and reduced the time to deploy from 1 week to less than 1 day saving marketing costs for 100+ restaurants in the Hartford, CT area

DALI TECHNICAL LAB

Software Engineer

Hanover, NH

June 2022 - September 2022

- Led backend development in a team of seven, for applications used by emergency room residents to diagnose patients
- Shipped beta and production ready application to partners in two production cycles to be deployed in Dartmouth Hitchcock Medical Center
- Used Flask to build API routes with MongoDB for low latency object storage and JWT tokens for secure request handling deployed on the Heroku Cloud

DARTMOUTH MACHINE LEARNING GROUP

Machine Learning Engineer

Hanover, NH

June 2022 - September 2022

- Built data pipeline for cleaning and extracting useful features from dataset of over 1 million loans spanning 3 decades
- Evaluated multiple machine learning models including linear, forest, and neural network based models to come up with best fit for dataset and minimized over-fitting
- Shipped loan prediction model to Advantage Capital with a 93% 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 for demonstration of economics final project
- 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 trades per second

SHARED CANVAS (Java) - *Synchronized Canvas for Collaborative Drawing*

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

Awards / Citations

ECON 26 Citation - "Exceptional teamwork and creativity in applying course concepts"

November 2022

Social Blueprint Startup Competition Winner - \$500 Startup Stipend

May 2022