

YOHAN V PANDYA

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EDUCATION

University of Wisconsin-Madison

Bachelor of Science in Computer Science

Expected May 2025

GPA: 3.81/4.00, Dean's List

Related Coursework: Intro to Algorithms, Data Structures, Discrete Mathematics, Computer Systems, Intro to Big Data Systems, Intro to Machine Learning, Linear Algebra, Multivariable Calculus

TECHNICAL SKILLS

Programming Languages: Java, Python, C, Linux, SQL, HTML, CSS, React.js

Frameworks/Tools: Git, PyTorch, Numpy, TensorFlow, Docker, Pandas, gRPC, Kafka, CQL, Apache Spark, BigQuery

WORK EXPERIENCE

Intern, ShenZhen JiangYun Intelligence

January 2023 - May 2023

- Actively optimized performance and memory usage of a stable diffusion model through weekly fine-tuning of critical hyperparameters, such as sampling method, batch count, and batch size.
- Utilized Google Colab, Jupyter Notebooks, and a local host to execute the model, while achieving expertise in diffusion model tools like DreamBooth and LORA (tools that are geared towards optimizing diffusion model performance while minimizing processing power).

Topocoder, Traffic Technology Services

June 2021- August 2022

- Used Google Earth Pro to collect and process data about traffic intersections, which was instrumental to put traffic signal timers in Audi cars.
- Performed exploratory data analysis on government documents to identify signal phases and inputted them within the company's files.
- Worked with cloud technologies, quality checked other topo coders' work.

PROJECTS

Research Assistant, GenerativeML Undergraduate Research

June 2023 - Present

- Studied MIT paper on Crystal Diffusion Variational Autoencoder (CDVAE) which identified stable materials with constrained chemical combinations.
- Effectively implemented CDVAE model on Center for High Throughput Computing's GPUs and performed repeated testing and iteration to resolve compatibility issues.
- Improved model's accuracy from 68% to 75% by adjusting batch size. Generated over 3500 stable materials, and currently am aiming to continue optimizing models by increasing time and space efficiency.

Personal Projects

September 2022 - Present

- AI Covid Predictor
 - Used PyTorch to create a regression model that can predict how many deaths there will be for a Wisconsin census tract, given the number of people who have tested positive, broken down by age.
- ModelServer
 - Developed a full-stack machine learning model serving infrastructure using gRPC, Python, and Docker.
 - Created a gRPC-based server for real-time predictions, implemented a multi-threaded client for efficient prediction requests, used LRU caching to improve prediction requests, and built a Docker container for easy deployment.
- Post Office Simulator
 - Worked collaboratively on project to allow users to find the shortest time for a package transfer between two post offices using a weighted DiGraph.
 - Used JUnit testers to write and test respective code before integration, as well as integration tests.