YOHAN V PANDYA

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EDUCATION

University of Wisconsin-Madison   **Expected May 2025**
Bachelor of Science in Computer Science   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, JavaScript
Frameworks/Tools: Git, PyTorch, Numpy, TensorFlow, Docker, Pandas, gRPC, Kafka, CQL, Apache Spark, BigQuery, React.js, Node.js, Express.js

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**
- Utilized Google Earth Pro to gather and analyze traffic intersection data, contributing significantly to the integration of traffic signal timers in Audi vehicles.
- Conducted in-depth data analysis on government documents to extract signal phases, effectively incorporating this information into the company's databases.
- Engaged with cloud-based technologies while ensuring the quality and accuracy of topographical coding completed by other team members.

PROJECTS

*Research Assistant***, UW Madison School of Materials Science & Engineering**   **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.
- Generated more than 3500 stable materials, with around half of them capable of deceiving a Materials Scientist.

Personal Projects   **September 2023 - Present**
- ChatChief | *SQLite, Python, Node.js, Express.js, RESTful API, React.js*
  - Developed an iMessage analysis tool, allowing users to gain insights into their group chats.
  - Implemented SQLite database operations to extract relevant information from chat.db file.
  - Used a Python algorithm to identify the most influential person in the group chat.
  - Developed a RESTful API using Node.js and Express.js, providing seamless file uploads and real-time execution of the Python script between the front-end web application and the server.
- AI Covid Predictor | *Python, Pytorch, Matplotlib, pandas*
  - 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.
- Kafka Weather Data | *Python, Kafka, gRPC*
  - Implemented Kafka-based data transfer system using protobuf serialization for weather data transmission, configuring 4 partitions and a single topic with replication factor 1 and exactly-once semantics.
  - Created consumer that generates visual data representation reflecting the temperature trends across the specified months, enabling easy comprehension and analysis of the gathered information.