SANYAM GARG

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EDUCATION

University of Wisconsin-Madison Madison, WI
Bachelor of Science in Computer Science & Data Science August 2023 – May 2027

Relevant Coursework
Data Structures & Algorithms, Introduction to Artificial Intelligence, Linear Algebra, Statistics, Discrete Mathematics, Calculus I & II

EXPERIENCES

AI & Backend Development Intern Dubai, U.A.E.
Century Financial June 2025 – Present

- Develop the Python backend for a new AI assistant using Model Context Protocol (MCP), processing information from financial APIs to perform portfolio analysis, stock comparisons.
- Architect a context management system to parse conversational history, enabling the AI to provide personalized recommendations and dynamically update the trading platform UI in real-time.
- Implement a real-time co-browsing feature using WebRTC and Node.js, allowing support agents to securely view and remotely control customer screens to resolve issues efficiently.

Deep Learning Research Assistant Madison, WI
Keles Group (UW-Madison) April 2025 – Present

- Contribute to developing and evaluating deep learning models (VERMIN framework) in PyTorch to predict DNA methylation from large-scale human/mouse genomic sequences.
- Manage computational environments (Conda) and implement data processing/analysis workflows (Snakemake) on a high-performance computing (HPC) cluster.
- Utilize Python, PyTorch, and GPUs for deep learning applications and data quality control.

PROJECTS

Handwritten Digit Recognition Web App Madison, WI
Personal Project December 2024 – March 2025

- Developed and trained a Convolutional Neural Network (CNN) using PyTorch on the MNIST dataset**.**
- Implemented image pre-processing (resizing, color inversion) and data augmentation techniques to improve model robustness.
- Built a Flask-based web application that allows users to upload images of handwritten digits for real-time classification.

Distributed Peer-to-Peer File Sharing System Madison, WI
Personal Project August 2024 – November 2024

- Created a robust distributed system in Python to enable secure file transfers across a P2P network using multithreading and chunk-based transmission.
- Implemented file integrity verification with SHA-256, ensuring **100% accuracy** in file reconstruction from 64KB chunks.
- Developed both CLI and Tkinter-based GUI interfaces to simplify configuration, peer discovery, and file management for end users.

SPlanner Dubai, UAE
Personal Project March 2022 - December 2023

- Developed a cross-platform scheduling app using Flutter and Dart, improving task management efficiency for 100+ users.
- Optimized data retrieval with dynamic arrays and linked lists, enhancing performance by 25%.
- Integrated secure Firebase authentication, safeguarding user data with industry-standard hashing protocols.

TOOLS

Programming Languages: Java, Python, JavaScript, Dart, SQL, R
Software & Tools: PyTorch, Git, Docker, WebRTC, Firebase, Conda, Snakemake, Flutter, NumPy, Flask
Concepts: Machine Learning, Deep Learning, NLP, Data Structures & Algorithms, Object-Oriented Programming, P2P Networking, Version Control, REST APIs