

# SANYAM GARG

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Madison, WI, 53726

## EDUCATION

### University of Wisconsin-Madison

Bachelor of Science in Computer Science & Data Science

Madison, WI

August 2023 – May 2027

### Relevant Coursework

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

## 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.

## EXPERIENCES

### Deep Learning Research Assistant

Madison, WI

*Keles Group (UW-Madison)*

April 2025 – Present

- Contributed to developing and evaluating deep learning models (e.g., VERMIN framework) to predict DNA methylation from genomic sequences for the Sequence2Methylation-v2 project.
- Managed computational environments (Conda) and implemented data processing/analysis workflows (Snakemake) for large-scale human/mouse genomic datasets.
- Utilized Python, PyTorch, and a high-performance computing (HPC) cluster with GPUs for deep learning applications and data quality control.

### Skyscanner

Remote

*SDE Job Simulation - Forge*

November 2023 – January 2024

- Engineered a responsive web application using React, focusing on user experience and rapid prototyping
- Built a dynamic travel date selection interface with Backpack React, contributing to enhanced product usability and customer engagement.

## TOOLS

**Programming Languages:** Java, Python, JavaScript, Dart, SQL, R

**Software:** Flutter, React, Git, Node.js, HTML/CSS, Junit, NumPy, PyTorch, Flask

**Concepts:** Object-Oriented Programming, Data Structures & Algorithms, Version Control, Debugging, Machine Learning, Data Visualization