Amey Malhotra

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EDUCATION

University of Miami || Coral Gables, Florida — May 2028
B.S. Computer Science, B.S. Data Science and Artificial Intelligence, Minor: Mathematics — ***GPA: 4.0***
Honors: Isaac Bashevis Singer Scholar, Dean's List, President's & Provost's Honor Rolls

SKILLS

- Languages – Java, Python, R, C, SQL, JavaScript, HTML, CSS
- Frameworks & Databases – Spring Boot, PyTorch, TensorFlow, React, Streamlit, PostgreSQL
- Cloud & Devops – AWS (VPC, EC2), Docker, Git, GitHub

WORK & LEADERSHIP EXPERIENCE

Data Science and Computational Biology Lab, *Undergraduate Research Assistant* — September 2025 - Present

- Engineer a machine-learning pipeline that converts large scale cancer pathology slides (SVS) into high-resolution image patches for transformer based malignant-cell classification
- Optimize and validate preprocessing on test SVS images to improve data readiness and model training efficiency across multiple deep learning architectures
- Collaborate with cross-functional stakeholders to translate research and policy requirements into user-facing software features

SCALE-R Lab, Department of Geography, *Undergraduate Research Assistant* — September 2025 - Present

- Built an interactive web dashboard for public-facing decision support, visualizing coastal resilience and adaptation indicators using React, JavaScript, MapBox and GIS frameworks
- Designed and implemented scalable data processing pipelines in Python to clean, standardize, and integrate multi-source spatial and socio-economic datasets for real-time visualization
- Contribute to the design of an AI/ML-based predictive model to simulate and visualize future coastal risk and vulnerability scenarios, informing long-term climate resilience planning

Unlock AI, *Project Lead* — May 2025 - Present

- Leading development of a small language model–based academic advising system to generate personalized semester schedules while minimizing exposure of sensitive student data
- Evaluating NLP and machine learning approaches to balance recommendation accuracy, inference latency, and privacy guarantees, ensuring feasibility for real-time academic advising use cases

Department of Computer Science, *Teaching Assistant* — August 2025 – December 2025

- Delivered targeted Python programming support to 65+ students in labs and office hours, enabling 90% to independently debug and optimize code
- Reinforced course material by clarifying programming fundamentals such as loops, functions, data structures and algorithms, and demonstrating practical applications
- Collaborated with faculty to analyze grading data and redesign practice materials, improving comprehension scores by 20% across core assignments

PROJECTS

News2sentiment – *Python, Streamlit, yfinance, Gemini API, FinBERT* — July 2025 - September 2025

- Engineered a sophisticated Streamlit based UI that enhanced user interaction for data visualization; integrated an RSS scraper that automated retrieval of stock specific financial news, improving data accessibility for 10+ analysts
- Integrated Google Gemini API for concise market summaries and leveraging FinBERT with Natural Language Processing to deliver sentiment analysis, enhancing accuracy of stock performance insights
- Built and deployed a full-stack dashboard integrating financial news and market data with scalable sentiment analysis pipelines and AI-driven insights for traders

Project Management Web Application – *Spring Boot, AWS, Docker* — March 2025 - April 2025

- Developed a full-stack web application using SOLID principles and Object-oriented design, enabling users to manage tasks and teams, following software development best practices
- Included authentication, real-time task tracking, and admin dashboard for project oversight
- Configured networking and security using Amazon VPC for secure and isolated infrastructure
- Used PostgreSQL for data persistence and implemented secure login and session management
- Designed RESTful APIs using Spring Boot and deployed backend with Docker on AWS EC2
- Implemented unit tests with JUnit 4 to validate core service and controller logic