Sumit Mantri

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SUMMARY - Computer Science; Statistics on the Machine Learning Track

My passion lies in Artificial Intelligence and its potential to revolutionize industries through advanced algorithms and data-driven solutions. I am eager to apply my growing expertise in AI and machine learning to real-world challenges, driving innovation and contributing to the evolving tech landscape.

University of California, Davis: ECS 122A - *Algorithm Design and Analysis;* STA 106 - *Applied Statistical Methods: Analysis of Variance*

WORK EXPERIENCE & ACTIVITIES

July 2024 - October 2024

Deep Learning Coursera Certification - *Student*

- Acquired in-depth knowledge of modern machine learning concepts, including supervised learning techniques like linear regression, logistic regression, and neural networks.
- Developed and optimized neural network architectures, including Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), LSTMs, and Transformers Network.
- Enhanced model performance using techniques such as Dropout, Batch Normalization, and Xavier/He initialization.
- Gained expertise in theoretical concepts and applied them to real-world problems in Python and TensorFlow, with practical experience in speech recognition, music synthesis, chatbots, machine translation, and natural language processing.

July 11, 2022 - July 29, 2022

Cisco High School Shadow Program - *Student/Programmer/Marketer*

- Expanded industry knowledge and professional network through engagement with Cisco employees, fostering meaningful connections and gaining valuable insights into the company's organizational structure and career development pathways.
- Developed a marketing strategy during a hackathon, conducting surveys with Cisco employees on mental health to inform solution implementation
- Served as programming lead for the hackathon team alongside my colleague, developing a personalized mental health Webex chatbot named Carely to address user needs.

September 2020 - June 2022

Goldstrikers 2473 & FTC 11466 (Robotics), Cupertino High School - *CV Input Programmer*

- Contributed to the development of computer vision (CV) input systems, designing and implementing algorithms to capture and process environmental data to accurately detect and track balls and their distances in real-time, leveraging advanced binary image processing techniques.
- Collaborated with cross-functional teams to integrate CV input with other software subsystems, enhancing overall system efficiency.
- For FTC: Designed and implemented robot mechanisms through Java programming where we utilized object-oriented programming principles to develop efficient code.

February 2022 - June 2023

Yapa Kids - *C++ Program Lead/Math Teacher*

- Led the development and implementation of curriculum for C++ programs, driving educational excellence and relevance in technical education.
- Supervised and mentored a team of instructors, providing guidance on effective teaching methods and ensuring high-quality instruction.
- Managed student admissions, enrollment, and class assignments, ensuring seamless program operations
- For Teaching: Through reflective practice and student-centered teaching, I refined my ability to decipher and address individual knowledge gaps, adapting my instruction to accommodate diverse learning styles and enhance student comprehension and academic success.

October 2023 - Present

UC Davis Lashkara - *Dancer*

- Demonstrated dedication and passion for Bollywood dance as a performing member of UC Davis Lashkara, a now nationally recognized team in the circuit
- Ranked as top 7 dance team out of over 150 in the nation, allowing us to compete in the most prestigious competition of the circuit
- Successfully balanced academic responsibilities with extracurricular pursuits, showcasing time management and prioritization skills

PROJECTS

Facial Recognition *June 2024 - June 2024*

Designed and developed a cutting-edge face recognition and verification system utilizing triplet loss and FaceNet model, achieving 90%+ accuracy in identifying and authenticating individuals within the dataset.

- Implemented custom triplet loss function to optimize face embeddings for robust feature extraction
- Leveraged pre-trained FaceNet model for efficient face encoding and feature extraction
- Developed and integrated face verification algorithm to compare facial similarities and ensure accurate identification

Spider Solitaire *December 2022 - January 2023*

Designed, developed, and implemented a Spider Solitaire game in Java, utilizing object-oriented programming principles and data structures, game logic implementation, algorithm design and problem-solving.

- Implemented comprehensive game logic, utilizing the Fisher-Yates algorithm for shuffle functionality and incorporating draw and move functionalities to manage card dealing and valid player moves.
- Utilized arrays, dynamic arrays, and stacks to efficiently manage game state, demonstrating expertise in array initialization, indexing, manipulation, and data structure integration.

TECHNICAL SKILLS

Languages: Python 3, C++, Java, R, MATLAB
Frameworks: TensorFlow, Keras, NumPy, OpenCV
Developer Tools: Visual Studio Code, R Studio, Jupyter, Git, GitHub