RAKESH PASUPULETI

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Education

University at Buffalo, State University of New York **Aug 2022 – Jan 2024**
Master of Science in Computer Science GPA: 4.00/4.00

Andhra Loyola Institute of Engineering and Technology **Aug 2017 – Aug 2021**
Bachelor of Technology in Computer Science GPA: 3.50/4.00

Technical Skills

Programming Languages: C, C++, C#, Java, Python, PHP, Solidity, Golang, SQL.

Database: MySQL, PostgreSQL,NoSQL, MongoDB.

Web Development: HTML, CSS,Bootstrap, JavaScript, TypeScript, React, Next.js , Node.js, REST API's.

Tools & Methodologies: Git , GitHub, OOP, Agile, CI/CD, SDLC .

Proficient Coder , Problem Solver And expert in Data structures and Algorithms.

Technical Projects

NFT Marketplace for Code Snippets: Jan 2023 - May 2023 | *Web3.js, Solidity, Ethers API, , HTML, CSS, JavaScript*

- Pioneered Decentralized Code Monetization: Developed a decentralized application (DApp) and an NFT marketplace on the blockchain, empowering developers to tokenize and trade their code snippets, unlocking secure ownership and financial opportunities
- From code to crypto, seamlessly: Leveled up code sharing with secure Solidity contracts and a user-centric UI/UX built for effortless NFT interactions using HTML, CSS, and JavaScript.
- From open source to goldmine: Transformed code into ownable, tradable NFTs, offering secure sharing and unlocking new revenue streams for developers.

Action Detection in Videos: June 2023 - Sept 2023 | *Machine Learning, Python, TensorFlow, Numpy, GPU*

- Developed a real-time video action detection system for human action recognition using three custom Convolutional Neural Network (CNN) models.
- Achieved a 18% improvement in action recognition accuracy compared to the baseline AlexNet model on the AVA Actions dataset, which densely annotates 80 distinct atomic visual actions in diverse video clips.
- Unleashed real-time action insights for industries ranging from healthcare to security, empowering smarter monitoring, personalized training, and proactive decision-making.

Database Management System for Restaurants: Aug 2022 - Dec 2022 | *MySQL, React, Node.js, RDMS*

- Designed and implemented an extensive database management system tailored for restaurants.
- Utilized MySQL for efficient backend operations and leveraged React/Node.js to create a user-friendly front-end interface.
- Streamlined order processing and inventory management, resulting in waste reduction and a notable increase in overall operational efficiency.

Pintos Operating System Extension: Aug 2022 - Dec 2022 | *C/C++, Linux, Operating System*

- Enhanced the Pintos operating system's thread system by addressing synchronization issues and optimizing system performance.
- Diligently worked within the 'threads' and 'devices' directories, utilizing the C programming language to implement a tailored process scheduling algorithm aimed at optimizing CPU resource allocation.
- Achieved a 30% reduction in CPU utilization, enhancing system performance.

Facial Recognition and Clustering : Jan 2023 - May 2023 | *Computer vision, Image processing, Python, OpenCV*

- Developed a custom facial clustering algorithm to categorize faces in images. Despite variations in lighting and angle, my custom clustering algorithm consistently categorized faces with 97% accuracy across 500 diverse test cases.
- Implemented a novel facial recognition pipeline, identifying and extracting faces from images and creating 128-dimensional feature vectors. Developed a custom K-means clustering algorithm from scratch to cluster faces based on facial features, demonstrating expertise in machine learning and algorithm design.

Extracurricular Activities / Achievements

- State-level Baseball Player.
- National Cadet Corps (NCC) Certification, demonstrating discipline and commitment.
- Published a Research Paper in the International Research Journal of Computer Science.
- Presented a Project at the International Conference on "Artificial Intelligence and its Emerging Technologies 2k21."