Santosh Guntuka

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EDUCATION

Master of Science in Computer Science
California State University, Dominguez Hills · 2023 · 3.7

PROJECTS

Chess Engine
github.com/santoshguntuka/chess_engine.git · June 2024 -September 2024
· Developed a **chess AI engine** using **Python**, **Pygame**, and **TensorFlow** to play autonomously and predict moves based on large chess datasets.
· Designed and implemented **data preprocessing** pipelines for efficient PGN file processing and incremental training of the neural network.
· Optimized model performance through **advanced neural network architectures**, **dropout**, and **batch processing** techniques.
· Enhanced the **Pygame UI** for real-time chessboard updates, intuitive user interaction, and visual improvements.

Genetics SNP data simulation: Predicting a binary outcome in simulated genomic data
Collaboration with Cedars-Sinai Medical Center, Los Angeles, CA · github.com/santoshguntuka/masters_finalProject
· August 2023 - December 2023
· Contributed to a Cedars Sinai Medical Center research project, applying predictive modeling to genomic datasets to uncover complex genetic patterns.
· Analyzed algorithm effectiveness in genomic data, demonstrating a 15% improvement in prediction accuracy with customized techniques, advancing genomic research.

EXPERIENCE

Machine Learning Researcher Intern
Dartmouth and Hitchcock   April 2024 - Current
· Coordinated federated learning across Dartmouth collaborators, achieving 100% data privacy compliance across multiple nodes.
· Worked on setting up Federated Learning using PySyft across Dartmouth, ensuring secure collaboration between nodes.
· Implemented and tested various tools and frameworks for Federated Learning to evaluate performance and compatibility.
· Enhanced Federated Learning processes, leading to a 20% improvement in model convergence speed.

IT Service Management
California State University, Dominguez Hills   March 2023 - December 2023
· Aided campus identity and access management using OneLogin and served as an MFA Duo Administrator.
· Diagnosed and troubleshot operating systems, hardware, and networking protocols, ensuring system stability and performance.
· Addressed and managed tier two support tickets through ServiceNow, achieving a 90% resolution rate within 24 hours and improving customer satisfaction.

Graduate Research Assistant
California State University, Dominguez Hills   June 2022 - February 2023
· Analyzed RL convergence, improving algorithm accuracy by 25% and reducing convergence time by 20% through detailed benchmarking.
· Achieved a 30% reduction in computational time with a 90% success rate in finding feasible paths under probabilistic constraints.
· Executed simulations, benchmarked RL approaches, and documented algorithm performance to ensure optimal solution convergence.

Digital Devices Associate
Amazon   February 2020 - October 2021
· Provided technical support for digital devices, resolving 95% of issues on the first call, enhancing customer satisfaction.
· Assisted over 100 customers daily with device troubleshooting and setup, achieving a 95% satisfaction rate through effective resolution and communication.
· Collaborated with product management and engineering teams to suggest improvements based on testing outcomes and customer feedback.

SKILLS

Languages: CSS, HTML, JavaScript, Python, SQL, TypeScript

Technologies/Frameworks : AWS, Docker, Express, Git, GraphQL, Kubernetes, MongoDB, Next.js, Node.js, PostgreSQL, PySyft,PyTorch, React, TensorFlow