Sanketh Edara

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Education

Purdue University West Lafayette, IN
Bachelor of Science in Computer Science and Data Science, Minor in Finance *May 2026*

Technical Skills

Languages: Java, Python, C/C++, R
Frameworks: React, Node.js, JUnit
Developer Tools: Git, Github, VS Code, Jupyter Notebook, IntelliJ, Eclipse, Mincron, Concur, UltiPro
Libraries: Pandas, NumPy, Matplotlib, Scikit-learn, TensorFlow

Experience

Software Intern May 2024 – Aug 2024
Beacon Building Products *Herndon, VA*

- Implemented FILE/IO operations in RPG on iSeries/AS400 to prevent duplicate customer purchase orders in the Mincron ERP system, enhancing data integrity and operational efficiency.
- Executed comprehensive optimization of Mincron ERP system during US-Canada merge, enhancing cross-functional workflows and achieving an increase in overall system performance
- Facilitated 20+ training sessions on critical modules such as Mincron, Blueprint, UltiPro, and Concur for over 100+ new hires, ensuring a 95% proficiency rate and reducing onboarding time by 25%

Undergraduate Research Intern Aug 2023 – May 2024
Caterpillar Inc. *West Lafayette, IN*

- Collaborated with Caterpillar as part of their new EV Charging Operations Project through The Data Mine @ Purdue
- Predicted State of Charge, Current, and Voltage values of Caterpillar's EV charging vehicles using multiple Python libraries (Pandas, Numpy, Matplotlib, Scikit-learn) and multiple machine learning models (NBEATS, ARIMA, LSTM, and Regressive), achieving 87% prediction accuracy
- Created a full-stack web application using Flutter and Firebase that allows Caterpillar's worksite managers to receive instantaneous status on their working machines

Projects

Autonomous Stat-Tracking for Real-Time Basketball Games | *Python, YOLOv8* June 2024 – Present

- Developed a back-end application for real-time basketball stat-tracking, potentially revolutionizing the sports-analytics industry
- Deployed YOLOv8 object detection on a bespoke dataset, utilizing Python; enhanced detection precision to 92%, resulting in a 90% reduction in manual review efforts
- Manually annotated 10000+ images of real time basketball games using CVAT AI

Implementing the Secure Boot for a Linux Computer | *AES, RSA, BIOS* June 2024 – Present

- Implemented a secure boot mechanism to verify software integrity running on a PC/Linux computer, enchancing system security
- Applied advanced encryption/decryption techniques using AES (symmetric keys), enhancing data security by 40%; implemented RSA (asymmetric keys) for secure authentication, potentially reducing unauthorized access attempts
- Performed comprehensives tests on Raspberry PI's boot process, specifically identifying key security vulnerabilities

2D Map Detection Using Decentralized Swarm Robotics | *Python, Java, Git* May 2021 – May 2023

- Programmed TurtleBots using the Hector SLAM algorithm, Lidar scanners, Arduino and ROS to replicate a 2d map environment and presented at the LCPS Student Maker Showcase to industry experts
- Created multiple swarm formations and utilized ANOVA statistical tests, resulting in a 55% increase in efficiency across test trials and providing actionable insights for optimizing formation strategies.

Customized Speech Evaluation Tool | *Python, Streamlit* Dec 2023 – Jan 2024

- Developed a full-stack web application using Python and was hosted on Streamlit's Community Cloud, enhancing speech evaluation efficiency by close to 40%
- Integrated OpenAI models (Whisper1, GPT 3.5 Turbo, and GPT 4 Vision) to accurately grade speeches and give tailored feedback based on custom input rubrics
- Received Caterpillar's "Best Cloud Implementation" Award