CHAVALI SURYA SAIRAMA SAMPATH

Graduate Student (MS Information Systems) | Machine Learning & Data Science
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PROFESSIONAL SUMMARY

Graduate student pursuing an MS in Information Systems with hands-on experience in Machine Learning, data analysis, and applied AI through internships and academic projects. Strong foundation in Python, data preprocessing, supervised learning, and reinforcement learning. Experienced in translating data into actionable insights through model development, evaluation, and optimization across healthcare and cloud computing domains.

EDUCATION

University of Maryland, College park — College Park, MD, USA
Master of Science- Information Systems — Graduation Year: Dec, 2026

Relevant Coursework:DatabaseManagement, Data, Models, and Decisions using R, Data Processing and Analysis in Python, Project Management, Managing Digital Businesses, Data Mining, Big data, Cloud Computing

Vignana Bharathi Institute of Technology — Telangana, India
Bachelor of Technology - Computer Science & Engineering — Graduation Year: May, 2025

Relevant Coursework: Analysis of Algorithms, Operating Systems, Artificial Intelligence, Machine Learning, Data Analytics, Computer Networks, Database management Systems, Object-Oriented Programming (Java)

TECHNICAL SKILLS

Programming Languages: Python, Java, C
Machine Learning & Data Science:Supervised Learning, Reinforcement Learning, Feature Engineering, Model Evaluation, Data Preprocessing, Exploratory Data Analysis, (EDA), scikit-learn, NumPy, Pandas
Data Visualization & BI: Tableau, Data Dashboards, Data Storytelling
Tools & Platforms: Jupyter Notebook, Google Colab, Git, Visual Studio Code
Cloud & Systems: Microsoft Azure, AWS (EC2, IAM), Google Cloud Platform
Project & Process Management: Project Management Fundamentals, Agile Concepts, Stakeholder Coordination
Computer Vision: OpenCV, Image Processing

EXPERIENCE

ORBITOR
Machine Learning Intern

- Applied Python for data manipulation, cleaning, and exploratory data analysis (EDA) on structured datasets.
- Performed data preprocessing and feature engineering using Pandas, NumPy, and scikit-learn to prepare data for modeling.
- Implemented supervised machine learning models, including K-Nearest Neighbors (KNN) and regression algorithms, for prediction tasks.
- Tuned model parameters and evaluated performance using appropriate metrics such as R^2 score and Mean Squared Error (MSE).
- Gained hands-on experience in end-to-end machine learning workflows, including data wrangling, model training, validation, and evaluation.

LEADERSHIP AND TECHNICAL ACTIVITIES

Google Crowdsource – VBIT
Technical Lead — Nov 2024 – May 2025
Head of Organizing Committee — Oct 2023 – Nov 2024

- Led and coordinated Google Crowdsource technical events, managing planning, scheduling, and on-ground execution.
- Organized seminars and workshops on Data Science and Artificial Intelligence, representing the student club.
- Mentored junior students in foundational ML and data science concepts, strengthening technical communication skills.
- Coordinated with external stakeholders to ensure smooth delivery of large-scale technical events.

PROJECTS

Resource Allocation in Cloud Using Reinforcement LearningandAI(Markov Decision Process)

- Developed a Reinforcement Learning–based resource allocation model using a Markov Decision Process (MDP) to manage dynamic cloud workloads.
- Designed and tuned state, action, and reward functions to reduce inefficient allocation under fluctuating demand.
- Evaluated performance by comparing allocation behavior before and after RL-based optimization, observing improved resource utilization and adaptability across varying workload scenarios.

USA Housing Price Prediction | (Project completed during Machine Learning Internship)

- Developed a K-Nearestz Neighbors (KNN) regression model to predict housing prices using the USA Housing dataset.
- Performed data preprocessing, feature scaling, and exploratory data analysis (EDA) using Pandas and NumPy.
- Tuned hyperparameters (number of neighbors) to optimize model performance.
- Evaluated the model using R^2 score and Mean Squared Error (MSE), achieving an R^2 score of 0.89.
- Implemented the solution using Python and scikit-learn as part of an end-to-end ML workflow.

PAN Card Tampering Detection | Computer Vision

- Developed a computer vision–based system to detect tampering in PAN card images using OpenCV and Python.
- Compared original and tampered PAN card images using image preprocessing techniques such as resizing, grayscale conversion, and thresholding.
- Applied structural similarity index (SSIM) to identify visual differences and quantify image alterations.
- Highlighted tampered regions by generating difference masks and bounding boxes for clear visual interpretation.
- Demonstrated the use of computer vision techniques for document verification and fraud detection use cases.

Automated Disease Prediction (Heart Disease) | Machine Learning

- Developed a machine learning–based disease prediction system using structured medical data to identify the likelihood of heart disease.
- Performed data preprocessing, feature selection, and exploratory data analysis (EDA) on patient health records.
- Trained and evaluated supervised classification models using scikit-learn to predict disease outcomes.
- Assessed model performance using appropriate classification metrics such as accuracy, precision, recall, and confusion matrix.
- Demonstrated the application of machine learning techniques in healthcare analytics and clinical decision support.

CERTIFICATIONS

- Microsoft Certified: Azure AI Fundamentals – Microsoft
- Introduction to Generative AI – Google
- Machine Learning – Google
- Java Fundamentals – Oracle / Authorized Platform
- Networking Essentials – Cisco Networking Academy