SAI MADHUKAR VANAM

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PROFILE

MS in Computer Science (GPA 3.82/4.0) with a focus on machine learning, computer vision, and autonomous systems. Experience building ML models, computer vision pipelines, and data analysis tools using Python and scientific libraries. Interested in PhD research in autonomous driving, robust perception, and smart mini-city testbeds under Prof. Golnaz Habibi at the University of Oklahoma.

EDUCATION

University of Oklahoma, Norman, Oklahoma **Aug 2023 - May 2025**
Master's, Computer Science *Norman, Oklahoma*

- **GPA:** 3.82/4
- **Coursework:** Algorithm Analysis, Database Management Systems, Computer Security, Software Engineering Processes, Cyber Attacks & Defenses, Artificial Intelligence, Parallel Distributed and Network Programming, Machine Learning Practice, Text Analytics, Blockchains & Cryptocurrencies, Information Visualization

KL University, India **Jul 2019 - May 2023**
Bachelor of Technology, Computer Science & Engineering

- **GPA:** 8.79/10

EXPERIENCE

National Institute of Electronics & Information Technology (NIELIT) **May 2021 - Aug 2021**
Intern *Virtual*

- Developed a machine learning model for Disease Prediction.
- Have used scikit-learn packages for preprocessing the data.
- have used Machine Learning models such as Linear Regression, K-Nearest Neighbour, Decision Tree Classifier and Support Vector Machine.
- Worked with a team to understand healthcare data and formulate a solution for effective disease prediction.
- Gained experience in data preprocessing, model training, and evaluation using Python and Machine Learning techniques.

AICTE AWS Cloud Virtual Internship **Oct 2021 - Dec 2021**
Intern *Virtual*

- Acquired proficiency in AWS services including S3 storage, EC2 instance creation, Lambda, and DynamoDB for database.
- Applied cloud computing principles to enhance scalability and reliability.

TECHNICAL SKILLS

- **Languages**: C++, C, Python, Java, JSP, HTML, CSS, Node.js, Php
- **Databases**: SQL, Servlet, MongoDB
- **Cloud**: AWS (S3, EC2, Lambda, DynamoDB), Google Cloud
- **Data Science**: TensorFlow, Scikit-learn, pandas, NumPy, D3.js, vega-lite
- **Tools**: Jupyter notebook, Pycharm, VS code, Blender, Unity, OpenCV, Adobe Suite, Creo, Autodesk, Unreal Engine
- **INTERESTS**: Machine Learning & AI, 3D Modeling, Team Management and Building, Game Development and Character Building

PROJECTS

Decentralized GPU Rental with Performance Verification and Penalties | Link **Jan 2025 - May 2025**
Self Project

- Developing a smart contract-based GPU rental system with automated payments.
- Store promised GPU specifications in IPFS to prevent manipulation.
- Fetch real-time GPU stats from a hosted API and compare them using Chain-link.
- Implement penalty mechanisms for providers who fail to meet promised performance.
- Blockchain & Smart Contracts: Solidity, Hardhat, Ethereum (testnet).
- Storage & Data Retrieval: IPFS, Chain-link Oracles.
- API Hosting & Data Fetching: Custom GPU Stats API
- Frontend: React.js, Node.js

Pollutant Analysis using interactive visualizations | Link **Jan 2025 - May 2025**
Self Project

- Developing a dashboard with interactive visualizations for pollutant trends and analysis of an Italian city.
- This project will highlight pollution patterns, detect spikes in pollutant levels, and provide useful insights for civilians and other agencies to improve air quality and protect public health.
- The project will be user friendly and easy to understand, and also interact the visualizations with different tools and filters for each pollutant.
- Programming Language: Python, Javascript, HTML, CSS.

- Python Libraries: Matplotlib, Pandas, Numpy, Scikit-learn.
- Website Hosting: Netlify
- Frontend & interactivity: React.js, Node.js, D3.js

Disease Prediction Using Machine Learning
NIELIT
- Developed predictive models to analyze patient data and forecast potential health conditions using machine learning algorithms.
- Utilized various machine learning algorithms like Random Forest and SVM to identify the best model for prediction accuracy.
- Collaborated with healthcare professionals to understand requirements and fine-tune model features.
- The project can be used in hospitals to assist doctors in diagnosing diseases early and improving patient care.
- OS: Windows.
- Programming Language: Python.
- Tools: Jupyter Notebook, Visual studio code, Pycharm.

Dead Man's Contract – Decentralized Will Execution dApp | Link
Hacklahoma Hackathon *Norman, OK*
- Built an Ethereum-based dApp that automates tamper-proof inheritance execution using Solidity smart contracts on the Sepolia testnet.
- Integrated React, MetaMask, and Ethers.js for creating/updating wills, adding beneficiaries, and triggering on-chain transactions.
- Used Pinata/IPFS to securely store notarized wills and property deeds, linked via contract state.
- Implemented a proof-of-life mechanism and Node.js/Nodemailer service that listens to contract events to distribute ETH and send email notifications to beneficiaries.

CERTIFICATIONS

- **Artificial Intelligence Foundations:**SkillUp Aug 2021
- **Automation Anywhere Certified Advanced RPA Professional:**Jan 2025
- **Microsoft Certified: Azure Fundamentals:**Feb 2023