Nallam Sruja

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CAREER OBJECTIVE

As a passionate and detail-oriented Computer Science graduate, I aim to leverage my skills in Java, Python, web development, and machine learning to develop innovative and impactful software solutions in a dynamic work environment.

WORK EXPERIENCE

Artificial Intelligence (Al) And Machine Learning Powered By Google Developers • Internship **Aug 2023 - Nov 2023**

Smart Internz, Virtual

Tech Stack: Python, Machine Learning, Pandas, Scikit-learn, Google Collaboratory

- Conceptualized and developed an Al-powered model to predict flood-prone areas based on historical weather and water level data.
- Built and trained ML models using classification and regression techniques to forecast flood risk with high accuracy.
- Analyzed large datasets using Python libraries (Pandas, NumPy) and implemented preprocessing techniques to improve model performance.
- Presented insights and predictions through interactive visualizations, enhancing early warning and disaster preparedness efforts.

MERN Full Stack Development • Internship **Aug 2023 - Nov 2023**
Ethnus, Virtual

Tech Stack: MongoDB, Express.js, React.js, Node.js (MERN)

- Designed and developed a full-stack web application to display and manage restaurant seat availability in real-time.
- Implemented dynamic seat booking, cancellation, and vacancy updates with responsive user interface using React.js and Bootstrap.
- Built RESTful APIs with Express.js and Node.js for real-time data communication between front-end and MongoDB database.
- Enabled role-based access for customers and administrators to manage seat reservations and view reports.
- Focused on clean UI/UX, performance, and error handling to ensure a smooth booking experience.

EDUCATION

B. Tech, Computer Science & Engineering 2021 - 2025
VIT AP CAMPUS

Senior Secondary (XII), Board Of Intermediate Education, Andhra Pradesh 2021
Narayana Junior College, Bhavanipuram, Vijayawada

Percentage: 84.60%

Secondary (X), Board Of Secondary Education, Andhra Pradesh 2019
Narayana EM High School, Bhavanipuram, Vijayawada

CGPA: 9.30/10

SKILLS

- Python
- Java
- CSS
- HTML
- My SQL
- Data analysis
- Computer Skills
- Active Learning
- MS - Office
- Data Analytics
- Qualitative Research
- E-commerce
- Machine Learning
- Web development
- Creativity
- English Proficiency (Written)
- Content Editing
- Fashion Designing

TRAININGS / CERTIFICATIONS

Angular Sep 2024 – Nov 2024
Infosys
Virtual

PROJECTS

Bone Fracture Detection and Classification in X-ray Images Using Machine Learning

May 2024 - Nov 2024

Tech Stack: Python, OpenCV, Scikit-learn, CNN, TensorFlow

- Developed a machine learning model to automatically detect and classify bone fractures in X-ray images.
- Implemented image preprocessing techniques using OpenCV to enhance image clarity and feature extraction.
- Trained convolutional neural networks (CNNs) for binary classification (fractured vs. non-fractured) with high accuracy.
- Validated the model using real-world datasets to assist in early diagnosis and reduce manual interpretation errors in radiology.

Real Time Face Recognition Doorbell

Jul 2022 - Dec 2022

Tech Stack: Python, OpenCV, Face Recognition Library,
Raspberry Pi

- Built an intelligent doorbell system that detects and recognizes faces in real time to enhance home security.
- Integrated a camera module with Raspberry Pi to capture live video and identify known individuals using facial recognition algorithms.
- Implemented OpenCV and Python-based face detection techniques for efficient and accurate recognition under various lighting conditions.
- Enabled real-time alerts and access control by matching live faces with a pre-trained dataset of authorized users.

Robotic Fire Detection And Extinguishing System

Jan 2024 - Aug 2024

Tech Stack: Arduino, Flame Sensors, DC Motors, Embedded C,

IOT Components

- Designed and developed an autonomous robot capable of detecting and extinguishing fire in hazardous environments. • Integrated flame and temperature sensors with an Arduino microcontroller to enable real-time fire detection and decision-making.
- Built a motor-controlled robotic platform that navigates toward the fire source and activates a mini extinguisher system.
- Focused on safety automation and real-time response to minimize fire-related damages in

An Efficient and Secure Authentication Scheme for Future Vehicular Communication
Jan 2025 – May 2025

Tech Stack: Python, Modular Arithmetic, Hashing Techniques, Cryptographic Protocol Design

Designed and simulated a novel anonymous authentication scheme tailored for Vehicular Ad Hoc Networks (VANETs), addressing real-time communication and security challenges such as privacy preservation, integrity, and low computational overhead. The protocol features:

- A lightweight cryptographic framework utilizing modular exponentiation and hash functions.
- Secure vehicle and roadside infrastructure authentication via anonymous identity and signature generation.
- Comparative evaluation showing improved computational efficiency over existing methods.
- Integration of real-time certificate validation, user anonymity, and message integrity checks for secure V2V and V2I communications.

EXTRA CURRICULAR ACTIVITIES

- Machine Learning Club ML Applications o Participated in club-led workshops and hands-on sessions focused on core machine learning concepts and algorithms. o Explored supervised and unsupervised learning techniques, including regression, classification, and clustering models.
- Built mini-projects using Python and scikit-learn to apply ML concepts to real-world datasets.