SAUMYA DADU

+91 8368020654 | dadusaumya@gmail.com | Software Developer
Saumya Dadu LinkedIn | saumyadadu (github.com) | saumya_dadu (codeforces.com)

EDUCATION

Vellore Institute of Technology Bhopal, India
Bachelor of Technology in Computer Science Engineering Aug. 2022 – May 2026 (Expected)
CGPA: 8.51/10.0

PROJECTS

Spatial Data Structure Performance Analysis for Restaurant Search *(May, 2025)*
C++, Spatial Data Structures, Algorithm Optimization
- Implemented and analyzed **Linear Search, Grid-based Spatial Index, and R-tree** methods, achieving **85% faster query times** with R-tree implementation
- Created comprehensive test scenarios using **100+ randomized queries** across varying dataset sizes to evaluate efficiency
- Analyzed and documented specific performance metrics including time complexity, memory usage, and scalability for large-scale applications
- Developed technical documentation comparing implementation approaches and their practical applications in food delivery systems

SOS Emergency Response System *(February, 2025)*
Python, YOLOv8, Computer Vision
- Deployed a **YOLOv8**-based (M/F) emergency model within the app for fast and accurate incident verification, reducing false positives by over **70%**; contributed to fire data annotation and severity tagging based on intensity and spread.
- Performed comprehensive comparative analysis of different YOLO model variants (YOLOv5, YOLOv8) and object detection frameworks, documenting performance trade-offs and optimization strategies
- Optimized model performance through custom data preprocessing and achieving efficient inference times
- Incorporated robust error handling and logging systems for production-grade reliability

Apple Plant Disease Detection System *(April, 2024)*
Python, TensorFlow, Convolutional Neural Networks (CNNs), Image Classification
- Engineered a CNN-based classification model identifying **10 common diseases** in apple plants with **82% accuracy**
- Trained the model on **18,000+ leaf images**, implementing data augmentation to expand the dataset **2x**
- Enhanced model accuracy through iterative testing and optimization of neural network architecture
- Accelerated disease identification process from **15 minutes to 2 minutes** per sample

TECHNICAL SKILLS

- Languages: C++, Python
- Tools: Git, GitHub, MS Excel, Canva
- Frameworks/Technologies: OpenCV, TensorFlow (basic knowledge)
- Core Competencies: Data Structures and Algorithms, Machine Learning (Basic), Operating Systems.

COMPETITIVE PROGRAMMING

Codeforces </>
- Achieved **Pupil rank** with rating of **1213**, demonstrating advanced algorithmic implementation skills
- Implemented solutions for **200+ algorithmic challenges** focused on algorithms, data structures, and graph theory
- Competed in **15+ rated contests**, consistently improving performance under timed conditions

EXTRACURRICULAR ACTIVITIES

- Creator and Manager, Educational Instagram Account (@historifyworld_):
  - Transformed complex historical information into engaging infographics, reaching **10,000+ views**
  - Developed and implemented content strategy resulting in consistent audience growth and engagement