NIVETHA G

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Summary:
Final-year Computer Science student specializing in Artificial Intelligence and Machine Learning. Strong foundation in computer vision, NLP, and big data technologies. Proficient in backend development, AWS, and distributed systems like Kafka and Hadoop. Interested in building scalable, real-time software systems.

Education:

B.E–CSE(Artificial intelligence and machine learning) — ***CGPA***: 8.63
Anna University, India ,*Sri Sairam engineering college* — *May 2026*

Work Experience/ Internships:

Sairam Techno Incubator (R&D TEAM) |Machine Learning Intern | *Jun 2024* **|** *Chennai, India*

- Engineered a computer vision-based system for weld classification, achieving **95% accuracy** in identifying welded and non-welded images, reducing error rates by 20%.
- Created and annotated a custom dataset of **500+ images** using LabelImg
- Applied **image processing technique**s to enhance detection precision.
- **Tech Stack:** Object Detection, Computer Vision, YOLO, Matplotlib, Python, TensorFlow

Sairam Techno Incubator (R&D TEAM) | Software Developer Intern | *Feb 2025* **|** *Chennai, India*

- Developed a computer vision module for an autonomous vehicle, focusing on lane detection and path planning, **improving vehicle navigation accuracy by 15%**.
- Implemented **BiSeNet** for semantic segmentation using the **Mapillary Vistas Dataset**, which contains **25,000 high-resolution images**, enhancing lane detection accuracy.
- **Tech Stack:** Computer Vision, OpenCV, Hough Transform, Image Processing, Python.

Projects:

Toxicity & Morphed Picture Detection

- Developed **ToxicScan**, a **Telegram bot** that allows users to instantly check whether a comment is toxic.
- Leveraged NLP (LSTM, BERT) and hybrid transformers (ViT and Swin) to classify **1,500+ online comments** and detect **1,000+ morphed images** with **90% accuracy**.
- Used web scraping and image augmentation techniques, improving data diversity and model performance by **20%**.
- **Tech Stack:** NLP, Text Classification, Web Scraping, Speech Toxic Word Detection, LSTM, BERT, OpenCV, Image Augmentation, Feature Extraction.

HungerHeal - App Development

- Built a real-time food donation platform with tracking and location-based services, enabling efficient connections between donors, volunteers, and recipients.
- Integrated an AI-powered chatbot, boosting user engagement and response times by **40%**.
- **Implemented Firebase Authentication** and **PostgreSQL** for secure data storage, significantly reducing unauthorized access attempts by 60%.
- **Tech Stack:** Firebase, PostgreSQL, Real-time Database, User Authentication, Flutter, Figma,DialogFlow

Certifications and Achievements

Certifications:

- Gold Medal in **Big Data Computing** (NPTEL)
- Silver Medal in **Python for Data Science** (NPTEL)
- Topper in **Industrial IoT 2.0**
- **NPTEL Discipline Star** and **Motivational Learner** – Recognized for consistent academic performance

Awards:

- **1st Place** : ML DL HACKATHON (NDLI CLUB , 6-Hour Challenge)
- **3rd Place:** Nexus 2.0 Project Expo

Open Source & Publications:

- Published **SmartCase**, an open-source Python NLP package on PyPI (`pip install smartcase`) that uses Named Entity Recognition to preserve important capitalization during text cleaning, improving NLP model accuracy and readability.

Research & Publications:

- *"Toxic Comment Detection using Learning Models and POS Tagging"* — Presented at **CODE AI International Conference, Manipal Institute of Technology, Bangalore**
- Presented a research paper titled *"A Predictive Analytics in Cardiology: Evaluating Machine Learning Algorithms"* at the **5th International Conference on Computing and Communication Technologies** (ICCCT 25).

Leadership & Volunteering:

- Assisted in organizing the **AIOTA event**, coordinating AI-centric workshops and sessions, contributing to smooth event execution while honing project management and collaboration skills.

Technical Skills and Tools:

Programming Languages: Python, Java (Beginner), Flutter, SQL
Machine Learning & AI: Deep Learning, NLP, Computer Vision, Image Processing, Big Data Analytics(Kafka,Spark,HDFS,Hive)
Data Analytics & Visualization: Power BI, Matplotlib, Seaborn
Cloud & DevOps: AWS, Docker, Cron Jobs, Terraform
Soft Skills: Collaboration, Research Documentation, Project Management, Leadership

Languages:

Fluent : Tamil, English ,**Conversational:** Hindi