Ponnamudi Abhinav Sai Pavan Kalyan

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SUMMARY

Technically driven Computer Science undergraduate with a strong command of **C, C++, Python**, and **Data Structures & Algorithms**. Enthusiastic about **Machine Learning** and experienced in **MATLAB programming** and **image processing**. Passionate about developing real-world AI solutions through analytical thinking and modern technologies. Quick learner and immediate joiner, eager to contribute to impactful and innovative projects.

EDUCATION

Sathyabama Institute of Science and Technology — Chennai, India
B.E. in Computer Science and Engineering — *2021 – 2025*
  – **GPA: 8.32 / 10.0**

NRI's Junior College — Guntur, India
M.P.C (Maths, Physics, Chemistry) — *2019 – 2021*
  – **Percentage: 84%**

NRI's Indian Springs School — Guntur, India
Secondary School Certificate (SSC) — *2018 – 2019*
  – **GPA: 10.0 / 10.0**

INTERNSHIPS

Pantech E Learning — Remote
Intern – AI & ML using MATLAB — *Sep 2024 – Oct 2024*
  – Implemented and optimized machine learning algorithms in MATLAB, improving classification accuracy by 15%.
  – Processed real-world datasets with preprocessing and model evaluation techniques to enhance model performance.
  – Demonstrated automation of analysis workflows that reduced manual analysis time by 30%.

PROJECTS

Blood Vessel Segmentation for Retinal Disease Detection
  – Developed a MATLAB-based system to segment blood vessels in retinal images with 90% accuracy.
  – Enhanced image quality using adaptive histogram equalization techniques.
  – Implemented morphological operations to isolate blood vessels, aiding in early detection of retinal disorders.

AI-Based Crop Protection System with Animal Detection and Water Management
  – Engineered a smart crop protection solution using **Raspberry Pi 5** and real-time video analytics.
  – Achieved 93% detection accuracy with **YOLOv8** to identify monkeys, birds, and boars.
  – Created a responsive **Streamlit**-based web interface with integrated HTML/CSS.
  – Monitored water levels using MCP3208 ADC and triggered alerts via **Blynk IoT**.
  – **Technologies:** YOLOv8, OpenCV, Raspberry Pi, Streamlit, Python, HTML/CSS

PATENT

- **Published Patent:** *IoT-Based Crop Protection System with AI-Driven Animal Detection and Water Management*, App. No. 202541034995 (2025)

Skills

- **Programming Languages:** C, C++, Python, MATLAB, SQL

- **Libraries & Frameworks:** OpenCV, Scikit-learn, Matplotlib, Pandas

- **Machine Learning:** YOLOv8, Model Deployment, Image Classification

- **Tools & Platforms:** Jupyter, MATLAB, Simulink, Raspberry Pi, Blynk IoT

- **Web Technologies:** HTML, CSS

Certifications

- MATLAB Onramp – MathWorks

- YOLO Object Detection with OpenCV – Udemy

- Python (Basic) – HackerRank

- Linux Complete Training