K S RAMALAKSHMI

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EDUCATION

PES University, Bengaluru   **Sep 2020 – May 2024**

- Bachelor of Technology, Computer Science and Engineering *(GPA: 9.56/10)*
- Key Courses:
    - Data Structures, Algorithms, Computer Networks, Operating Systems
    - Statistics for Data Science, Data Analytics, Machine Intelligence, Big Data, Information Retrieval, Database Technologies, Large Language Models
- Awards:
    - 2-time Dr. CNR Rao Scholar – **Top 5% of the batch**
    - 4-time Prof. MRD Scholar – **Top 20% of the batch**
    - **Best Project Award** for Final Year Thesis Dissertation

EXPERIENCE

RadiusAI, Bengaluru

Applied Scientist   **Sept 2025 – Present**

- Modified and improved **custom CVAT platform** for data annotation workflows using **Voxel51**.
- Researched on **Knowledge Distillation** methods for improving YOLOv8 using DINOv2 and similar architectures.
- Bug fixes on production-ready **NVIDIA Triton Servers** for end-to-end model pipeline deployments
- Leveraged AI agents using **DSPy**

Software Engineer (Machine Learning)   **Sep 2024 – Sept 2025**

- Conducted class and domain incremental training of **Vision Transformers** for **ShopAssist**, an AI-powered checkout system deployed across multiple clients in North America.
- Boosted model performance by **~10%** through rigorous model performance analysis and iterative improvements.
- Implemented **SigLip** and **SAM** techniques in model training pipeline to enhance performance.
- Applied advanced data curation techniques like **deduplication**, to streamline vision-related tasks.
- Applied advanced **Metrology** (depth perception)**, Barcode** and **Aruco** related classification techniques
- Implemented progressive training using adaptive learning rate schedulers to improve convergence and accuracy

Associate Technical Consultant – Adobe, Bengaluru   **May 2024 – Aug 2024**

- Delivered custom web solutions with **Adobe Experience Manager (AEM)** for a seamless user experience.
- Enabled edge delivery using **Adobe Franklin**, a headless front-end framework in VanillaJS, and provided authoring solutions for leadership projects.
- Developed a **UI automation framework** with advanced AI techniques, including **YOLO Ultralytics, TensorFlow, and Google AI Platform**, to enhance testing and deployment efficiency.

Technical Consultant Intern – Adobe, Bengaluru   **May 2023 – Aug 2023**

- Developed proof of concepts for custom web applications using **HTML, Bootstrap, and ReactJS**.
- Built and deployed two Python-based tools: a **CSS Color Palette Validator** and a **JS Code Duplication Checker**, using data analytics and machine learning.
- The CSS validator using **TensorFlow, React, Django, Docker,** and **Heroku**, with visual reporting via **Chart.js**.
- The JS duplication checker employed **AST Parsers, CodeBERT, NLTK**, and **GitHub Actions** for CI/CD integration.

Machine Learning Intern – Perfint, Chennai   **Jun 2022 – Jul 2022**

- Analyzed and upgraded vertebra detection algorithm in a spine surgical prototype robot using a data-driven approach**, boosting accuracy by 5%.**
- Ingested and preprocessed real-time DICOM images using **OpenCV** for feature extraction.
- Designed and trained a **CNN backbone from scratch**, comparing it with **ResNet and YOLO architectures**.
- Integrated the algorithm into a clinical workflow using **Flask** for web service development.

Languages: Python, SQL, C, JavaScript
AI/ML/Data: PyTorch, Tensorflow, Lightning Fabric, MCP Agents, Scikit-learn, LanceDB, PowerBI, Voxel51, CVAT
Generative AI: LangChain, HuggingFace, LlamaIndex, ComfyUI, AWS Bedrock
Others: AWS, Google Cloud, Azure, Docker, Git, Prefect

PUBLICATIONS

Fishook: An Optimized Approach to Marine Specie Classification using MobileNetV2,
IEEE Xplore Library, OCEANS 2023, Ireland

Efficiency Unleashed: Reimagining A-to-B Paths in Graphs,
Springer Lecture Notes on Electrical Engineering, CoCoNet 2023, Bengaluru

Deep learning models for Real-time Weed Identification on the Edge,
Springer Smart Systems and Technologies, BIDA 2024, Bengaluru

HACKATHONS & ACHIEVEMENTS

Vernacular Language Assistant using AI   **Apr 2023**
Vellore Institute of Technology, Chennai
Krypthon 2023, AI and Data Analysis Track – Best Project

AI-based Enhanced Virtual Learning for Autistic Patients   **Mar 2023**
Army Institute of Technology, Pune
Innerve Hackathon 2023, National-level Finalist

Automating Precision Spraying using Microsoft Azure   **Sep 2022**
Microsoft, Bengaluru
Future Ready Applications Hackathon 2022, Winner

Fishook: An Optimized Approach to Marine Specie Classification using MobileNetV2   **Aug 2022**
Ministry of Education, Government of India
Smart India Hackathon 2022, National-level Finalist

Bluetooth enabled Gaze Guided Wheelchair for Paralytic Patients   **Nov 2021**
IEEE Robotics and Automation Society, PES University
RoboFest 2021, Open Innovation - Winner

LEADERSHIP & ACTIVITIES

Research Assistant – Centre for Pattern Recognition   **Jan 2023 – May 2024**

- Completed 7 Computer Vision research projects, resulting in 1 international paper and 1 journal publication.

Community Speaker – AI Day @ Google   **Apr 2023**

- Conducted an introductory session, "Deep Dive into Computer Vision," for IT consultants with no Computer Vision background.

Executive Director – PESU I/O   **Feb 2022 – Dec 2023**

- Led a dynamic team of 35 to promote peer-to-peer learning concept by conducting bridge courses.
- Strategized expansion of the learning model to other departments of the university

President – Rotaract Club of PES University   **Aug 2022 – Jun 2023**

- Organized 15 community events for a social cause – Polio Vaccination and Mega Blood Donation Drives.
- Strengthened public relations with external organizations.
- Best Budding Rotaractor (Female) Nominee, RI District 3190, Rotary International