SUNDARAKRISHNAN N

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EDUCATION

BE Computer Science, RV College of Engineering   2022 - Present
CGPA: 9.13

EXPERIENCE

Project Intern   July 2024 – Present
Samsung Research Institute

- Developing a deep learning model to animate hair blowing in the wind from still images for the PRISM Program.
- Focused on hair-wisp segmentation using **transfer learning** and utilized a **flood-fill algorithm** for dataset creation.

RESEARCH AND PUBLICATION

Selective Filter Fine Tuning in Transfer Learning   Feb 2024 – Present

- Researching on a new algorithm to reduce overfit and increasing accuracy in Transfer Learning on pretrained models like **ResNet-50**, to tackle cases where the size of dataset is small like in **Medical Applications.**
- Paper is currently in drafting stage aimed at **IEEE Transactions**.

Vehicle Mirror Detection using YOLOv8 Algorithm and Deep Learning for Video Surveillance Applications   Oct 2023 – Jan 2024
Accepted by **ICCCI IEEE 2024** Conference

- Built a robust vehicle mirror detection model using deep learning framework **YOLOv8**, achieving a **precision of 0.94** and an F1-Score of 0.91.
- **First** research paper to solve this hazard. Also received access to real-time feed of 50 AI cameras from the Bengaluru Traffic Police to improve accuracy

PROJECTS

GateKeeper

- Developed an approval system with over **60** regular users for IEEE-RVCE to ease event planning and permissions using **SpringBoot** for backend and **Next.Js** for frontend.
- Production-ready product that utilized **MySQL database** accessed using **JPA**, and is hosted on **Oracle Cloud**.

TrafficMonitor

- Developed a real-time solution for predicting vehicle turn patterns using a custom **YOLOv8** object tracker and forecasted traffic 30 minutes ahead with **Auto ARIMA** on challenging Indian roads.
- Secured **first place** in Phase 1 of the Bengaluru Mobility Challenge held by IISc, competing against **400+ teams.**

CSITSS

- Led the development of the CSITSS-2024 website for the IEEE Conference at RVCE using **Next.js**, deployed on **Vercel** with **Cloudflare** integration.
- The site received over **100,000+ views** globally, providing a seamless experience for authors all over the world.

SKILLS AND COMPETENCIES

Programming	Python, Java, C, Node.js
Tools and Frameworks	Java SpringBoot, Tensorflow, Flask, Unity, Docker
Soft Skills	Effective Communication, Leadership, Critical thinking

ACHIEVEMENTS AND LEADERSHIP

- **Web Team Lead** at IEEE-RVCE, handling the Web Projects based on SpringBoot, Node JS and React, coordinating and leading the entire team.
- **Project Engineer** at Astra Robotics, RVCE, working on OpenCV and Machine Learning for various robotic applications. Recently conducted Embedded C workshop for **250+ school students** across 5 schools.
- **Competitive Chess Player** with a FIDE rating of 1456
- **Developed and published** 'Hover Bird', 'Instant Chess clock','Fuel Now' applications that have **100+ downloads** on Google Play Store and Itch.io