



R SOORYA NARAYANAN

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<https://github.com/havok69>

EDUCATION

Chennai, India	IIITDM Kancheepuram	2020 - 2024
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- B. Tech in Smart Manufacturing. CGPA of 8.07

Kerala, India	Kailasanadha Vidyanikethan
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Class XII (Central Board of Secondary Education) Percentage: 90.8%	2019 – 2020
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Class X (Central Board of Secondary Education) CGPA: 9.16(10)	2017 – 2018
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EXPERIENCE

Intern	Talakunchi Networks Pvt Ltd IT and Network Security Services	Sept 2021 - Nov 2021
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- Learnt softwares and operating systems relevant in the field of cybersecurity and penetration testing.
- Tasked with penetration testing and securing websites with varying security.
- Practiced penetration testing and ethical hacking on devices.

Intern	TiHAN IIT - Hyderabad	May 2023 - Present
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- Working on Monocular depth analysis controlled, GPS denied AGV navigation for seamless tracking.
- Currently developing an AGV for industrial application, with pedestrian panoptic segmentation and tracking, trajectory prediction and monocular depth estimation capabilities for occlusion detection and delay.
- Primary tasks involve system integration, algorithm optimization, benchmarking, etc.

Intern	Veyyil Robotics Private Limited	Sept 2023 - Present
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- Strategic Image/Video Data collection and annotation.
- Developing client specific AI models for industrial scenarios.

Intern	Ombrulla	May 2024 - Present
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- Engineering AI Visual Inspection solutions.
- Developing visual inspection softwares that utilize pcd processing, photogrammetry, nerf, etc.

TECHNICAL SKILLS

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- Languages: C, C++, Python, HTML, CSS, PHP
 - Databases: SQL, MongoDB
 - Software/OS: Windows, Linux, ROS, ROS 2, AutoCAD, Fusion 360, MS Office, Unity, Visual Studio Code, PyCharm
 - Version Control: Git, Github
 - Cloud Platforms: AWS

- Microcontrollers/Boards: (TM4C123GH6PM), ESP8266, ESP32, Arduino, Raspberry Pi, Jetson Nano, Jetson Xavier NX
- Object Detection, Object Tracking and Re-identification, Pose Estimation, Trajectory Prediction, OpenCV, YOLO, MiDaS, SLAM, Tensorflow, Keras, PyTorch, GANs
- Point cloud processing, Meshing, Open3D, PPTK, Photogrammetry, Agisoft Metashape/PhotoScan, 3DF Zephyr, Meshroom, NeRF, Luma AI, Nerfstudio, Instant-NGP, COLMAP

PROJECTS/ACHIEVEMENTS

- **Secured 3rd position globally in the 2023 MATE NOAA Ocean Exploration Video Challenge, USA**
 - Trained a custom object detection model for detecting and classifying deep-sea organisms in the NOAA ship *Okeanos Explorer*.
 - Project github link: <https://github.com/havok69/2023-MATE-NOAA-Ocean-Exploration-Computer-Coding-Challenge>
- **Web Application developed for ordering food in hostels of IIITDM-K**
 - Designed a web app for online food ordering.
 - Technologies used were HTML, CSS and PHP and managed Databases using MySQL
 - Using the data obtained as the test data for initial orders we explored the data using python for Scheduling and Forecasting
- **Implemented a KNN and K-means multi-classification on Kaggle datasets**
 - Pre-processed a Kaggle dataset for Basketball players and their performance
 - Evaluated model performance using metrics like accuracy, precision, recall, and F1 score
- **Computer Vision projects for AUV Technical Club**
 - Developed models to detect underwater gates, buoys, and perform animal life classification.
 - Developed program to perform photogrammetry of underwater biome replicas.
- **Multilingual Speech Recognition Model for RAG chat-bot without Training**
 - Built a multilingual speech recognition model to perform tasks in multiple languages.
 - Used LangChain, OpenAI and Pinecone vector DB to build chat-bot capable of learning using RAG.
 - Can input queries from audio/video files in multiple languages.
- **Designed and developed a smart projector for 2-wheeler safety**
 - Projector serves as indicator lamps for the rider, with a simple installation of our product.
 - Eliminates the risks due to absence of an indicator lamp in 2-wheelers.