

Adithya Balaji

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PROFILE

Experienced software engineer with international exposure and commitment to detail-oriented, accurate work, and a background in diverse areas such as Robotics, Artificial Intelligence, Computer Vision, Embedded Development and DevOps.

PROFESSIONAL EXPERIENCE

AI and Robotics Engineer Neura Robotics GmbH

München, Germany
September 2024 - Present

- Developing Computer vision applications for Collaborative robots
- Working with customers to develop customized robotic applications
- Developed End-to-End workflow of a vision based bin picking application to pick unorganized and complex automotive parts for a leading manufacturer in two months

Embedded AI Developer - Ulm, Germany Huber Automotive AG

Dec 2022 - Present

- Worked on end-to-end design and development of mobile robotics software for a target-following autonomous vehicle using C++, Python, ROS2.
- Developed computer vision, Sensor calibration, fusion applications for different sensor perception such as Camera, Lidar, and 4D Radar
- Worked on visualization and simulation with Gazebo, RVIZ and Simulink
- Developing Embedded AI applications for Intelligent battery managements (ESP32, Infineon AURIX™ TC3xx and TC4xx) to estimate SOC and SOH of Li-ion batteries.
- Participated in the development of a Human-Robot Interface using Android, WiFi and socket communication protocols to ensure real-time data exchange
- Experience with safety-critical systems development protocols, including Adaptive Autosar, ASPICE, and ISO 26262, Unit testing and tools like JIRA and Polarion.

AI Research Intern - Nantes, France Reliev

Dec 2021 - Sep 2022

- Developed deep learning algorithms and advanced signal processing techniques to enhance the detection of noise and seizures in epileptic patients, using ECG and IMU data.
- Architected and implemented end-to-end APIs for data ingestion into InfluxDB, as well as for pre-processing, noise filtration, and seizure prediction and data visualization interfaces using Plotly Dash and FastAPI
- Worked on Sensor Calibration and Fusion of ECG and IMU waveform data.
- Ensured code quality and operational efficiency through the design and execution of unit tests, Automated QA tests and the implementation of CI/CD pipelines.

Data and Automation Engineer - Chennai, India EMIS Health

Dec 2017 - Dec 2019

- Developed Machine Learning models to analyze speech input of emergency calls for NHS, United Kingdom.

- Worked on design and development of DataLake on Starburst and AWS with Big Data technologies such as Apache Spark, Kafka, and Airflow, Presto and also databases such as SQL Server, Postgres, Presto, and DynamoDB.
- Developed and implemented QA automation tests utilizing FlaUI, xUnit, Specflow, and Cucumber with C# for .NET applications

EDUCATION

M.Sc Advanced Robotics and AI Ecole centrale de Nantes, France	Jan 2020 - Sept 2022
Bachelor of Engineering Anna University, India	Aug 2012 - Apr 2016

TECHNICAL SUMMARY

Programming Languages	Python, C, C++, C#, Matlab
Skills	Robotics, AI, Computer Vision, Edge Computing, Signal Processing, Embedded Development, AWS, QA and Unit testing
Middleware	ROS, Zenoh, micro-ROS
Frameworks	TensorFlow, PyTorch, Caffe, ONNX, OpenCV, PCL
Deployment	Docker, Kubernetes, FastAPI, Plotly, Dash, StreamLit
DevOps	GitLab, GitHub actions, Azure Devops, CI, CD
Project Management	JIRA, Confluence, Polarion, HP ALM
Languages	English(Fluent), German (A1), French(B1)

REFERENCES

Prof. Olivier Kermorgant olivier.kermorgant@ec-nantes.fr	Associate Professor of Robotics at Centrale Nantes +33 (0)2 40 37 69 99
Prof. Eric Le-Carpentier Eric.Le-Carpentier@ec-nantes.fr	Professor of Signal Processing at Centrale Nantes +33 (0)2 40 37 16 00