

Adithya Balaji

Ulm, Germany · adithya.b94@gmail.com · (+49) 15510 782415

PROFILE

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

PROFESSIONAL EXPERIENCE

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.
- Utilized computer vision techniques in conjunction with camera, Lidar, and 4D Radar sensors to bolster intelligent perception capabilities in robotics and edge AI applications.
- Led Sensor calibration initiatives, focusing on Camera, Lidar, and 4D Radar. Conducted intrinsic and extrinsic calibration to optimize sensor fusion algorithms
- Worked on developing software with ROS2 and porting existing stack from ROS 1 to ROS 2.
- Developed edge AI models optimized for microcontrollers (NXP S32V234, AURIX TC4xx), employing frameworks like TensorFlow Lite, PyTorch, micro-ROS.
- Experience with safety-critical systems development protocols, including Adaptive Autosar, ASPICE, and ISO 26262, and tools like JIRA and Polarion.

AI Research Intern - Nantes, France

Reliev

Dec 2021 - Sep 2022

- Engineered noise and seizure prediction algorithms utilizing unsupervised learning and advanced signal processing techniques.
- 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, 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
- Skilled in working with various tools and platforms including AWS, Docker, Azure DevOps, CI/CD, Atlassian, and JIRA X-Ray.

Associate Software Engineer - Chennai, India
Accenture

Dec 2016 - Dec 2017

- Conducted analysis of large-scale telecommunications data utilizing Data Warehousing and ETL techniques.
- Created automation frameworks using Python and Selenium to increase testing efficiency and accuracy.
- Experience with various tools such as Splunk, Tableau, etc., for data visualization and analysis purposes.

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#
Skills	Robotics, AI, Computer Vision, Edge Computing, Signal Processing, Linux based Development, AWS
Middleware	ROS, Zenoh, micro-ROS
Frameworks	TensorFlow, PyTorch, Caffe, 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)

ACADEMIC PROJECTS

Calibration and Development of a Multi-Robot Localization System

- Engineered and calibrated a four-sensor overhead IR imaging system for precise localization of the Turtlebot3, leveraging ROS for system integration.

Latent Space Exploration of Mammograms

- Designed and implemented algorithms to explore the latent space of mammogram images for enhanced feature extraction and diagnostic accuracy.

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