# Parthan Manisekaran

*Driven by a 'give me any task, and I'll build it' mindset, I specialize in **Robotics**, **Computer Vision** and **AI** to turn ideas into innovative, functional solutions—let's work together to make your next project a reality*

Robotics Graduate Student
RWTH Aachen
Aachen, 52070
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## EXPERIENCE

### Hexafarms, Berlin —Computer Vision Thesis Student

JUL 2024 - DEC 2024

Working on **Monocular Depth Estimation based Region of Interest Proposal and Deep learning based Stereo Matching** under the guidance of the CTO. Specializing in Computer Vision applications for Greenhouse solutions.

Skillset: Pytorch, OpenCV, RPi + Stereo Vision

Contact:

- Huijo Kim: huijo@hexafarms.com

### Robert Bosch Power Tools GmbH, Leinfelden — *Robotics Software Developer (R&D Internship)*

OCT 2023 - MAR 2024

Included as a **pivotal member** of **Bosch's Top 100 Innovative Projects** initiative, contributing to the success of the project.

Orchestrated the **seamless migration of the Robot's Software Stack**, optimizing Robot Perception, Control, and Manipulation codebase, transitioning from **ROS Galactic (EOL Stack) to Humble**.

Implemented **robust CI/CD tools** dedicated to testing and deploying robotics software on pilot robots, streamlining the development process.

Skillset: ROS2, Behavior Trees Engine, Gazebo Sim, URSim, MoveIt!, Nav2, Docker, Github Actions

Contact:

- Dr. Andreas Mogck - andreas.mogck@de.bosch.com,
- Nguyen Quang Huy - quanghuy.nguyen2@de.bosch.com

## LINKS

Github, Linkedin, Medium

## AWARDS

**Runners Up, Bots and Bento Competition at IEEE ICRA 2024, Yokohama, Japan** - Built an autonomous physical robot in three days from scratch

**RWTH Student Project Grant 2023** - Built a deep learning model for Solar Soiling Detection using Aerial Vehicle

**Runners Up, CTO Pitch Battle, Deutsche Telekom** - Conceived Deutsche Telespots, an attempt to revamp the existing telephone booths across Germany into data + service centers

## SKILLS

Python, C++ , PyTorch, Tensorflow, OpenCV, ROS2, Gazebo, Carla,, Linux, Git, Docker, Github Actions, Embedded Systems

### Artificient Mobility Intelligence, Aachen— *Assistant Software Engineer (Werkstudent)*

NOV 2022 - SEP 2023

Created a **vision-based end-to-end scoring pipeline** to evaluate car drivers, enhancing their driving safety and reducing insurance premiums, a key **USP** of the company's product.

Developed **simulated crash environments** to assess harsh accelerations and obstacle avoidance while driving, ultimately **saving** the company **at least $10k in crash testing expenses**.

Skillset: Carla, PyTorch, Tensorflow, OpenCV, Docker

Contact:

- Lining Wang - lining.wang@artificient.de

## RESEARCH PAPERS

ARMER: Modular and Semi-Autonomous Supernumerary Robotic Limbs for Disaster Relief: ACM Advances in Robotics 2021

Supernumerary Robotic Limbs for the Blind: IEEE INDICON 2020

## EDUCATION

### RWTH Aachen University, Aachen — *M.Sc. Robotic Systems Engineering*

OCT 2021 - Present

Courses Include: Robotic Sensor Systems, Computer Vision and Machine Learning

Research Project: Implement and evaluate methodologies to moving neural network inference from automated vehicles to connected cloud servers.

GPA: 2.6 (German Scale)

### PES University, Bangalore— *Bachelors in Mechanical Engineering*

AUG 2016 - AUG 2020

Specialization in Aerospace Engineering. Courses included Drone Computing, Propulsion, Hydraulics and Pneumatics.

Awarded Engineering Merit Scholarships for Top 20% of the Mechanical Branch.

Granted a patent for a concept of using multiple drones to integrate together to form one flying object to pick up heavier payloads and malfunctioning drones. Link of the Patent

GPA: 8.43/10

## LANGUAGES

English (Working Proficiency)
Germany (A2)
Tamil (Native)