

# Parthan Manisekaran

Driven by a 'give me any task, and I'll build it' mindset, I turn ideas into innovative robotic and AI solutions—rapidly prototyping and bringing them to life with precision and creativity.

Robotics Graduate Student

Aachen, Germany

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(0) 162 4767319

## EXPERIENCE

### [Hexafarms](#), Berlin — Computer Vision Thesis Student

JUL 2024 - DEC 2024

Developed a Monocular Depth Estimation based Fruit Counting for accurate yield estimation.

Specialized in Stereo Matching Algorithms to enable camera deployment without manual calibration or rectification.

Tools Used: OpenCV, PyTorch, Raspberry Pi, Stereo Cameras

🔗 **Contact:** Huijo Kim - huijo@hexafarms.com

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

OCT 2023 - MAR 2024

Migrated the **Robot Software Stack** from ROS Galactic to Humble, improving system reliability.

Implemented **CI/CD pipelines** for seamless deployment and testing.

Enhanced **Robot Perception, Control, and Manipulation frameworks**.

Tools Used: ROS2, Gazebo Sim, URSim, MoveIt!, Nav2, Docker, Github Actions

🔗 **Contact:** Nguyen Quang Huy - quanghuy.nguyen2@de.bosch.com

### [Artificial Mobility Intelligence](#), Aachen — *Assistant Software Engineer (Werkstudent)*

NOV 2022 - SEP 2023

Built a **vision-based scoring pipeline** to evaluate driver performance, a prominent feature of the company's product, enabling reduced insurance premiums and enhanced driver safety.

Developed **simulated crash environments** to assess harsh accelerations and obstacle avoidance while driving, **saving ~ \$10k in crash testing costs**.

Tools Used: Carla, PyTorch, Tensorflow, OpenCV, Docker

🔗 **Contact:** Lining Wang - lining.wang@artificialint.de

🔗 [Portfolio](#) | [LinkedIn](#) | [GitHub](#)

## AWARDS

### [Runners-Up, Bots and Bento Competition, IEEE ICRA](#)

**2024** - 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' to modernize telephone booths across Germany.

## TECHNICAL SKILLS

**Programming Languages:**  
Python, C++

**Frameworks & Libraries:**  
PyTorch, TensorFlow, OpenCV

**Robotics Tools:** ROS2, MoveIt!, Nav2

**Simulation Environments:**  
Gazebo, Carla

**CI/CD Tools:** Docker, GitHub Actions

**OS & Version Control:** Linux, Git

## EDUCATION

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

OCT 2021 - Present

Relevant Courses: Advanced Robotics Kinematics and Dynamics, Computer Vision, Machine Learning, Reinforcement Learning

Research Project: Optimized neural network inference for cloud-connected autonomous vehicles.

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

## 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

## LANGUAGES

English: Professional  
Proficiency

German (A2): Basic  
Conversational

Tamil: Native