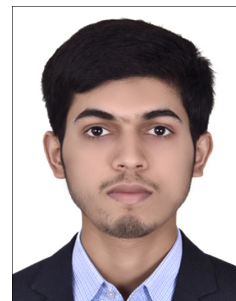


# Balachandra Bhat

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in balachandrabhat



**Robotic Software Engineer** with Strong Technical Foundation and Comprehensive Expertise in Building the **End-to-End Robotic Systems**.

## Skills

Programming Languages: Proficient in: **C/C++**, **Python**, Familiar with: Javascript/Typescript.

Web Frameworks: **Angular** | Database: **MongoDB** | Backend: **fastAPI**, Familiar with: Node.JS

Embedded Linux: **Linux Kernel**, **BSP for Nvidia Jetson Platform**

Robotics: **ROS2**, **Robot Manipulation**, **Navigation**

Others: **GH Actions**, **Docker**, **Ansible** | Cloud: Familiar with: AWS

Machine Learning Fundamentals: Scikit-Learn, Numpy, Pandas | Computer Vision: **OpenCV**.

Misc: **LabVIEW**, **Arduino**, Languages: English C2, **German B1**.

## Experience

### Robotic Software Engineer

Lemvos GmbH, Augsburg

January 2024 - current

- Building the complete software infrastructure for Lemvos GmbH from scratch.
- Architecting the end-to-end robotic system for marine robotics.
- ROS2 driver development, robot navigation, remote control, etc.
- BSP development for the custom robotic controller with onboard SBC(NVIDIA Jetson) and MCU.

### Engineering Project

Center Robotics THWS, Schweinfurt

November 2023 - January 2024

- Making the humanoid robot play the piano.

### Bachelor Thesis

Center Robotics THWS, Schweinfurt

August 2023 - January 2024

- Topic : Advanced collision avoidance in human-robot collaboration.
- Eye gaze detection and human pose estimation, pose forecasting.
- Dynamic robot path re-planning based on Human movements, Integration of MoveIt 2 Hybrid Planning.

### Software Developer Intern

Center Robotics THWS, Schweinfurt

March 2023 - July 2023

- Implemented a low-latency task scheduler for the human-robot collaborative assembly process.
- Integrated the **PyQt** based worker guidance system into **ROS** environment.
- Developed flexible web application for assembly sequence planning using **Angular** framework.
- Enhanced the **Node.JS** and **MongoDB** backend, cutting the data over/under fetching by **40%**.

### Student Assistant (AI/ML)

Fraunhofer IPA, Schweinfurt

June 2022 - February 2023

- Implemented an object detection model for detecting assembly progress and correctness.
- Developed an automated data annotation tool for 6D pose estimation.
- Implemented an automated data collection and pre-processing pipeline for 6D pose estimation.

## Interests

- Robotics
- ROS
- Computer Vision
- Machine Learning
- Backend System Design
- Cloud Computing

## Hobbies

- **Self Hosting / Home-Lab** : Self-hosted several services in a mini server for learning Server administration and Networking.