

JOSEF GSTOETTNER

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GitHub: <https://github.com/JosefGst> ◇ **Portfolio:** <https://josefgst.github.io/blog>

C++ and Python developer with experience in ROS. Makes robots navigate autonomously and more. Well rounded robotics engineer, can work on software, mechanics and electronics.

SKILLS

- ROS / ROS 2, C++, Python, Docker, Matlab, Git
- Embedded software development on ESP32, Arduino, STM32, NRF52
- CAD design for 3D printing, laser cut and tool path generation for CNC machining in Fusion 360
- **Learning:** PCB design with KiCAD, Game development in Godot, Mandarin and Cantonese
- **Languages:** German (native), English (fluent), Mandarin (conversational), Cantonese (beginner)

EXPERIENCE

Caregiver — raising my one year old son

September 2024 - Present

- Besides that I am self studying Mandarin and Cantonese.
- Working on small personal projects and learning new skills.

LSCM — Robotic Engineer, ROS

April 2022 - August 2024

- Set up SLAM (cartographer, slamtoolbox, rtabmap) and NAV2 on autonomous mobile robots.
- Developed motor drivers and autonomous docking in C++ and Python.
- Experience with wide range of sensors (3D LiDAR, depth cameras, IMU, GPS, Sonar).

HKUST — Research Assistant, Embedded Software

July 2020 - March 2022

- Developed a weight scale with RFID scanner for automated storage records in chemical Labs on Arduino MCU.
- CAD design for 3D print and laser cut of the prototypes.
- Worked on a low power IoT accelerometer with BLE Mesh for predictive maintenance.

KALBAS — Mechanical Engineer, Product development

August 2019 - May 2020

- Designed, 3D-printed and created tool-paths for CNC machining of fish lure prototypes.

PROJECTS

Lingao ROS 2; Private Side Project

August 2023

- Convert the existing ROS 1 codebase to ROS 2 of the Lingao robot.
- Add outdoor navigation with GPS.

Red Bird Racing; Autonomous Racing Team; HKUST

November 2021 - April 2022

- Cone detection with OpenCV and autonomous race car control-algorithm in ROS.

Robomaster; Software team; HKUST

October 2021 - April 2022

- SLAM for autonomous Robot in ROS and embedded software development on STM32.

Autonomous RC-car challenge (first place); HKUST

December 2020 - March 2021

- Trained Pytorch model on the Jetson Nano for autonomous-driving, obstacle avoidance and overtaking other cars.

EDUCATION

HKUST Masters in Mechanical Engineering

May 2019