



Robotics Software Developer

JOSEF GSTOETTNER

ROS/ROS2 | C++ | Python | Gazebo

CONTACT

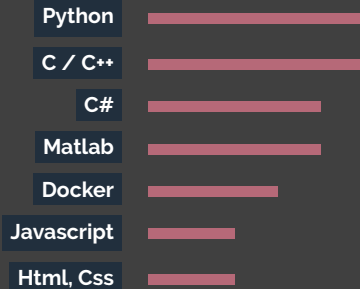
+852 9322 5289
jgstoeettner@connect.ust.hk
<https://github.com/JosefGst>
<https://josefgst.github.io/blog/>
LinkedIn

SKILLS

Areas of specialization

- ROS / ROS 2 (Navigation, SLAM, MoveIt)
- Robot Simulation in Gazebo & Isaacsim
- Theory of robot arm kinematics
- Embedded software (STM32, Arduino, Nrf52)
- 3D modelling in Fusion360 & Solidworks
- 3D printing, CNC machining and laser cutting

IT & programming



OS:

Languages

Language	Proficiency Level
English	Full Professional
Mandarin	Limited Working
Cantonese	Elementary
German	Native

Learning & Hobbies

- PCB design with KiCAD
- Game development in Godot

C++ and Python developer specialized in ROS, navigation and SLAM. Has a strong understanding of mechanical engineering principles, object-oriented programming and robot dynamics to optimize system performance.

WORK HISTORY

System Engineer 2022/4–2024/8
ROS ROBOT PROGRAMMING · LSCM | Sciences Park

- Made robots navigate autonomously, smoothly and avoid obstacles.
- Set up SLAM (Cartographer, SlamToolbox, ...) for 3D mapping of large areas.
- Simulated robots in Gazebo for testing and faster development.
- Create object-oriented ROS nodes in C++ to interface with actuators and sensors.
- Developed autonomous docking utilizing AprilTags for precise movement.
- Tuned PID controllers for smooth movement and speed control.
- Experience with a wide range of sensors (3D LIDAR, depth cameras, IMU, GPS).



Research Assistant 2020/7–2022/3
EMBEDDED SOFTWARE · HKUST | Clear Water Bay

- Developed a weight scale with an RFID scanner for automated storage records in chemical labs on an Arduino MCU.
- CAD design for 3D printing and laser cutting of prototypes.
- Firmware development on a low-power IoT accelerometer with BLE Mesh for predictive maintenance based on Nrf52.
- Simulated a steel beam in Ansys for natural frequency analysis.



Mechanical Engineer 2019/8–2020/4
CAD DESIGN · KALBAS | Cheung Sha Wan

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

EDUCATION

Master of Science: Mechanical Engineering 2022/4–2024/8
· HKUST | Clear Water Bay

- Relevant Courses: Robotics | Dynamics of Machines | Finite Element Analysis



Bachelor of Science: Mechanical Engineering 2020/7–2022/3
· University of Applied Sciences Upper Austria | Austria



PROJECTS

Red Bird Racing 2021/11–2022/4
AUTONOMOUS RACING · HKUST

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



Robomaster 2021/10–2022/4
SOFTWARE TEAM · HKUST

- SLAM and navigation for autonomous Robots in ROS
- Embedded software development on STM32.



Autonomous RC-car race (first place 🏆) 2020/12–2021/3
IMITATION LEARNING · HKUST <https://github.com/JosefGst/autorace>

- Trained Pytorch model to be used on Jetson Nano for autonomous-driving, obstacle avoidance and overtaking of other cars.



Josef Gstoeettner +852 9322 5289 jgstoeettner@connect.ust.hk
 <https://github.com/JosefGst> <https://josefgst.github.io/blog/>
 <https://www.linkedin.com/in/josef-gstoeettner-437630172/>