

THOMAS UNG

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About Me

Qualities	Curious - Ambitious - Fast learner - Takes initiatives - Communicate a lot
Languages	French (Native) - English (Fluent) - Mandarin (HSK2) - German (B1) - Spanish (A2)
Programming Languages	C++ - Rust - Typescript - Go - Python - JavaScript - Java - C
Web	Node.js - Deno.js - Aleph.js - Laravel - Next.js - Yew.rs - Dioxus.rs
Database	SGBD MariaDB - MySQL - Postgresql - SQLite - Redis
Other tools/Framework	Neovim - Git - CMake - Docker - Kubernetes - ROS1/2 - Pytorch - Unreal Engine
Relevant Coursework	Cloud computing - Algorithm optimisation - Distributed systems - Parallel architecture - Machine learning

Work Experience

Robotic Software Engineer

Mar 2024 — Now

PAL Robotics, Barcelona, Spain

- Software migration ([ROS1/2](#), [C++](#), [Python](#), [CMake](#), [ament_cmake](#))
- Development of a fleet management system ([Open-rmf](#), [ROS2](#))
- Networking optimisation for wireless distributed applications ([DDS](#), [Zenoh](#))
- Package management ([Debian](#), [Gitlab](#), [Docker](#))
- Redesign of a RFID tag inventory project.
- Build digital twin environment ([Gazebo](#))

Research Software Engineer in Robotics

Feb 2022 — Dec 2023

CNRS, Adelaide, Australia

- Technical Leader - Manager for 6 FTE / 1 year, project management for the Robocup@Home competition, task management, make sure code guidelines are respected ([Git](#), [Github](#), [Discord](#))
- Code refactor, create and maintain an OS ([Gentoo Linux](#), [Docker](#), [c++](#), [ROS](#), [python](#), [SQLite](#))
- Development of a digital twin environment in Unreal Engine ([Unreal Engine 5](#), [ROS](#), [c++](#), [Clang](#), [CMake](#))
- Research of onboard Visual SLAM solutions for Pepper robot ([ROS](#), [c++](#))
- Software integration for the robocup project ([ROS](#), [c++](#), [Whisper](#), [YOLOv8](#), [Bert](#), [Spacy](#), [Kaldi](#))
- Design of a web interface and research of an embedded easy to use and deploy framework for Pepper Tablet

Software engineer intern

Dec 2023 — Mar 2024

LAB-STICC, Locmaria-Plouzané, France

- Depth camera calibration for pepper
- Integration of a finite state machine as a scheduler for RoboCup tasks (6 months) ([ROS](#), [C++](#), [Python](#))
- Research and integration on a stable onboard navigation solution for the robot Pepper
- Participation to RoboCup 2022 Bangkok with the team RoboBreizh ([1st place SSPL](#))
- Research and implementation of a navigation module for Pepper robot as part of the RoboCup@Home competition ([Gazebo](#), [ROS](#))

Projects

- 1st place in the Robocup@Home SSPL in 2022 and 2023
- Video converter API ([GCP](#), [Kubernetes](#), [Next.js](#), [Flask](#), [Prometheus](#))
- Othello min max AI ([Go](#))
- Time zone converter ([Rust](#))
- Advent of code ([Rust](#))

Education

Umeå Universitet, Umeå, Sweden

Master 2 Computer Science, Artificial Intelligence and algorithm optimization

Sep 2021 — Jan 2022

Publications

- Cédric Buche, Maëlic Neau, Thomas Ung, Louis Li, Tianjiao Jiang, Mukesh Barange, and Maël Bouabdelli. 2023. RoboBreizh, RoboCup@Home SSPL Champion 2022. In RoboCup 2022:: Robot World Cup XXV. Springer-Verlag, Berlin, Heidelberg, 203–214. https://doi.org/10.1007/978-3-031-28469-4_17
- Li, L., Neau, M., Ung, T., Buche, C. (2024). Crossing Real and Virtual: Pepper Robot as an Interactive Digital Twin. In: Buche, C., Rossi, A., Simões, M., Visser, U. (eds) RoboCup 2023: Robot World Cup XXVI. RoboCup 2023. Lecture Notes in Computer Science[], vol 14140. Springer, Cham. https://doi.org/10.1007/978-3-031-55015-7_23

References

- Cédric BUCHE, Professeur des Universités, buche@enib.fr, +61483343787