

THOMAS UNG

SOFTWARE RESEARCH ENGINEER

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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)

Programming

C++ - Rust - Typescript - Go - Python - JavaScript - Java - C

Web

Node.js - Deno.js - Aleph.js - Laravel - Next.js - Websockets

Database

SGBD MariaDB - MySQL - PostgreSQL - SQLite - Redis

Other tools/Framework

Neovim - Git - CMake - Docker - Kubernetes - ROS - Pytorch - Unreal Engine

Relevant Coursework

Cloud computing - algorithm optimization - distributed systems - parallel architecture
- Machine Learning

WORK EXPERIENCES

Research Software engineer -

1 year - 2022-2023

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 -

6 months - 2022

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)

Software engineer intern -

2 months - 2021

LAB-STICC, Locmaria-Plouzané, France

- Research and implementation of a navigation module for Pepper robot as part of the RoboCup@Home competition ([Gazebo](#), [ROS](#))

PROJECTS

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

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
- Louis Li, Maëlic Neau, Thomas Ung and Cédric Buche. 2023. Crossing Real and Virtual : Pepper Robot as an Interactive Digital Twin

EDUCATION

Master 2 in computer science -

Artificial Intelligence and algorithm optimization

2021-2022

Umeå Universitet, Sweden

Master 1 degree in computer science -

Autonomous, Interactive and Intelligent Systems

2020-2022

Université de Bretagne occidentale, France

REFERENCES

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