

Paul Prevel

Senior robotics software engineer



I am a robotics engineer, passionate about human centric applications, the boundary between classical robotics and generative AI, bio-inspired learning and locomotion.

At biped.ai, I led the team that built the worlds first autonomous walking companion for blind and visually impaired people. The device was built from scratch (hardware & software platforms) and is currently used and distributed in 17 countries.

WORK EXPERIENCE

Lead robotics engineer, then CTO

2022-present

Biped Robotics

- Developed a 3D perception pipeline that performed obstacle detection, tracking, and localization at 10 fps on an edge computing device. Improved performance by 400%, and invented the first hole detection algorithm for a mobility device.
- Created an interface with a cloud-based VLM and approximations with a local semantic segmentation model to run offline. Optimized to achieve real-time performance in both cases.
- Implemented the tooling for the full lifecycle of an ML IOT device, including a software benchmarking system, a quality control system for assembly, remote software updates, monitoring, and maintenance.
- Managed a team of 4 engineers and balanced a roadmap between our main B2C product and multiple B2B pilot projects. Ensured the release of continuous customer-facing updates in between.
- Synchronized research projects (EPFL, Honda Research Institute), leading to paper submissions and clinical trials.

EDUCATION

MSc in Robotics

2017-2021

EPFL

Minor in Computational Neuroscience. Focus on machine learning, mobile robots, computer vision, and optimization methods.

BSc in Micro-engineering

2014-2017

EPFL

Strongest subjects: Informatics, Mechanics, Mathematics/Signal Processing, Sensors.

RESEARCH

3D vision for a robotized wheelchair able to cross obstacles

2021

EPFL Biorob

Interfaced a legged wheeled robot with ROS to use existing terrain mapping algorithms, and implemented the perception pipeline to allow it to climb stairs.

Human locomotion model optimization to mimic pathological gaits

2019

EPFL Biorob

Implemented an optimization pipeline for a bio-inspired human locomotion model to reproduce pathological gaits.

Human robot interaction in human aware navigation

2018

EPFL DISAL

Created high level robot human interactions, to improve navigation planning with multiple robots in a human-populated environment.

SKILLS

<i>Programming</i>	Python (advanced), C++ (intermediate), rust (hobbyist)
<i>Software</i>	ROS, Gazebo, Webots, Docker
<i>Hardware</i>	Intel Realsense, Rockchip architecture, IMU sensor, calibration
<i>Linux</i>	bash, systemd, dbus, debian packaging, bluetooth
<i>Languages</i>	French/Spanish (native), English (advanced)