DAVID WEIS

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Three years of safety-critical software engineering experience.
Passionate about robotics that can empower people in everyday life.

WORK

2019 – NOW
ROBOTICS ENGINEER, CASTA SPES TECHNOLOGIES LTD.

As the software lead for a robotics startup, developed a navigation stack and a fleet management platform for an autonomous security robot.
ROS, Python, Gazebo, Sensor Fusion

2016 – 2018
SOFTWARE ENGINEER, INSERO AIR TRAFFIC SOLUTIONS

Co-ran a research lab, working on projects such as an AR application for monitoring airport equipment status in real time using the Microsoft HoloLens.
Worked closely with customers to deliver a safety-critical application for control of the Instrumental Landing System.
Improved QA processes by training developers in modern software testing techniques.
C#, WPF, ASP.NET, C++

2016 – 2018
LECTURER, VIA UNIVERSITY COLLEGE

Designed a curriculum and taught an introductory course in software engineering.
Teaching, Public speaking, Mentoring

PROJECTS

2019 – NOW
HAMILTON

Design a Mecanum wheeled robot and use reinforcement learning to train it to drive on different terrains.
CAD, Python, TensorFlow, OpenAI Gym
Link: davidweis.dev/hamilton

2017 – NOW
HOPPER

Iteratively designed and built an open source hexapod 3D printed robot with autonomous navigation stack.
ROS, OctoMap, SLAM, OpenCV
Link: github.com/dmweis/Hopper_ROS

2018 – NOW
VOLUNTEER, PREWIRED

Mentoring children in software and computer science. Organized a week-long hackathon, where participants could practice their skills against each other.
Mentoring, Leadership, Event organization

2017

MIXED REALITY RESEARCH, THE LEGO GROUP

Prototyped Mixed Reality games for LEGO toys and experiences. Won award for most innovative project.
Unity, Mixed reality, C#

2016

VR SPACE FLIGHT SIMULATOR, ENGINEER THE FUTURE - COPENHAGEN FESTIVAL

Built a space flight simulator with semi-realistic physics for the Engineer the Future youth festival in Copenhagen.
Unity, HTC Vive, Arduino

2016

VR GAMEMASTER, VIA UNIVERSITY COLLEGE PROMOTIONAL EVENT

Developed an asymmetric VR tabletop multiplayer game using computer vision to track token placement.
Unity, VR, HTC Vive, Computer vision
Link: davidweis.dev/vr-gm

2016
MARS ROVER

Designed and built a wheeled robot inspired by the Mars rover. Designed in Fusion 360, 3D-printed, and operated with a Xamarin-based Android app for remote control.
CAD, 3D printing, Arduino, Xamarin
Link: davidweis.dev/rover

2015
ROBOT ARM

Designed and built a 3D-printed robotic arm with real-time control software, including computer vision for picking up objects in free space.
Computer vision, Inverse kinematics, CAD, WPF,
Link: davidweis.dev/robotarm

EDUCATION

DECEMBER 2019

MSC. ROBOTICS AND AUTOMATED SYSTEMS, HERIOT-WATT UNIVERISTY

Participated in a competition for European Robotics League, building an assisted living robot.
Worked on real-time teleoperation platform for the Husky UGV.
Dissertation on obstacle detection and traversal for legged robots.
MoveIt, ROS, Python, NumPy

JANUARY 2018

B. ENG. INFORMATION AND COMMUNICATION ENGINEERING, VIA UNIVERSITY COLLEGE

Achieved award for most innovative bachelor project, on use of augmented reality for industrial applications.
Worked as a teaching assistant and was on committee of software engineering society.
Unity, VR, C#