Maxime Gardoni

Contact via:
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Birthdate : 11/09/1996
Nationality: Swiss

Passionate, curious and attentive Robotic Software MSc student. Entering the job Market in April 2022.

EDUCATION

2019	**Master in Robotics,** EPFL Specialized in software development for **perception**, **planning**, and **control**.
2018	**Bachelor 3, Academic Exchange,** Linköping university, Sweden
2016	**Bachelor 1-2, Microengineering,** EPFL

SKILLS

Knowledge in	Deep Learning, Machine learning, Computer Vision, Optimization problems, Control, Mechatronics, Soldering, 3D printing, Autonomous and intelligent system
Programming	Python, Matlab, C++, Linux Bash, (Java)
Software/Tools	Docker, PyTorch, Numpy, OpenCV, Pandas, Linux/Unix, Git, PX4, ROS, Webots, Simulink, Excel, Word
Soft skills	Good communication skills, strong multidisciplinary background, quick learner.

LANGUAGES

French	Maternal
English	C2
German	B2

PROJECTS

Deep Learning: Object detection and Keypoint regression, 2021**,** ecoRobotix
Master thesis in collaboration with ecoRobotix SA, based in Yverdon.
Research on Neural Network architectures that can both detect bounding box of plant in real time and regress their stem (organic centre) for an efficient chemical treatment using a robotic rover.
This is a currently ongoing project.

Trajectory prediction, "Deep learning for autonomous vehicle" course project, 2021
Predicting the trajectory of human walking in a crowd using Deep learning.
Our solution was multi modal (could predict multiple likely future outcome with their probabilities).
This project was successfully completed in collaboration with 2 other teammates.
Obtained grade: 6/6, *More info available online*

Drift detection with Neural Networks, Semester project, 2020, ICT4SM Lab
Neural network methods for anomaly detection in time series.
Implemented a novel gradient-less optimiser method via particle swarm optimisation, usable with PyTorch.
Implemented 2 regression methods with uncertainty quantification
Obtained grade: 6/6, Report and code available online

Solving the traveling salesman problem, "Intelligent Agent" course Project, 2020
Solved 4 variants of the travelling salesman problem, a famous planning problem consisting of finding the optimal path to deliver packages in multiple cities, implemented in java. *More info and code available online*

PROFESSIONAL EXPERIENCE

Sept. 2021
– Feb. 2022

Master thesis in Computer vision, ecoRobotix SA, Yverdon
Description available above

Sept. 2020
– Feb. 2021

Teaching Assistant, EPFL Master courses:
    - Machine Learning programming, Prof. Billard
    - Basics of Mobile Robotics, Prof. Mondada

July- Aug 2020
(2 month)

Mechatronic test bench development, Adept Neuro SA, Ecublens
Developed a mechatronic test bench for automated electrical and visual tests on deep brain electrodes.
Hardware and software development, Image processing using python and OpenCV, High level communication and GUI developed with MATLAB.

July- Aug 2019
(2 month)

Robotic vibration analysis and decoupling, Asyril Sa, Fribourg
Developed of a passive vibration decoupling system for vibrating industrial robots.
Developed different test protocol, measurements using digital lasers, data spectral analysis using MATLAB.

July- Aug 2017
(2 month)

Sensor automated assembly, Meggitt SA, Fribourg
Developed a specialised vacuum gripper, programmed a robotic arm from *universal robot* for an aerospace sensor assembly.