

# Curriculum Vitae



## Maassen Steve

**Date of birth:** 19.01.1993

**Nationality:** Luxembourgish

**Marital Status:** unmarried

**Work Permit:** 5 year B

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## Academic Career

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June 2018

### **MSc in Mechanical Engineering, ETH Zurich**

Focus on control systems, dynamics and robotics

Master Thesis: „*Parsing blocksworld scenes with an RGB-D sensor*”

- implementation of a full 3D recognition and manipulation pipeline using depth sensors and 6DOF robot (C++, PCL, ROS)
- setup foreseeing human-robot interaction

Semester Thesis: „*Supervised learning of the safe set in autonomous driving*”

- using support vector machines for classifying the safe set in autonomous racing (Python, Julia, Matlab, libsvm)

Sept. 2015

### **BSc in Mechanical Engineering, ETH Zurich**

Focus on Mechatronics

Bachelor Thesis : „*New training strategies and experimental tasks to enhance motor learning*”

- implementation of a 3D game for a 7 DoF arm-rehabilitation robot with the Unity game engine (C#)
- implementation of an assisted-as-needed controller for a 7 DoF arm-rehabilitation robot (fading gains in respect to performance) (Matlab Simulink)

## Professional Career

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03.20 - Today

Control Engineer at **Verity AG**

- development of algorithms for insight generation (using visual and depth image data) (C++)
- development of tools used for image classification (Python)
- evaluation of different Kalman filters in simulation environment and on real data. (C++, Python)

06.18 - 03.20

Lead Drone Choreographer at **Verity AG**:

- development on the choreography framework responsible for abstracting away mathematical paths and trajectories. (C++)
- implementation of trajectory generation algorithms with the help of convex optimisation methods (C++)
- design, implementation and onsite commissioning of choreographies for drone entertainment shows (C++)
- interaction and creative discussion with people from the live events industry including directors, production managers, artists

06.17 - 08.17

Part time software engineer at **Optotune AG** Switzerland:

- implementation of new production processes on a cartesian robotic platform

02.17 - 06.17

Part time system engineer at the **Laboratory for Energy Conversion**:

- completing the mechanical design of a droplet recovery system for an extrem ultra violet plasma chamber

09.15 - 02.16

Internship at **Optotune AG** Switzerland:

- automation of production processes
- assembling and testing of electrical systems
- design of mechanical systems in SolidWorks

- 09.13 - 12.16 Teaching assistant for the “Innovationsprojekt 2014” and “Technical drawing and CAD” at **ETH Zurich**
- consulting 3 groups of 5-6 students in a problem solving competition in the topics of CAD modelling, mechatronic systems, and team building
  - teaching the basics of technical drawing and modelling in NX Siemens to a group of 20 students
- 07.12 - 08.12 Factory internship at steel construction company **F.S.W s.à.r.l.**

## Languages

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Luxembourgish	mother tongue
German, French, English	fluent in speaking and writing

## Programming and IT Skills

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Programming skills:

C++ 17, Python, Visual Basic, Matlab & Simulink, C#, Julia

Library experience:

Eigen, Boost, PCL, OpenCV, protobuf, ROS, libsvm, numpy, pandas, scikit-learn

Tools and Software:

Linux, Git, NX Siemens (CAD), Solidworks (CAD), Blender, Microsoft Office, iWorks, Latex

## Other skills and areas of expertise

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Clean room experience (class 9 , ISO 146441)

3D printing and tinkering

- realisation of several, self driven projects
- experience in FDM manufacturing and design
- experience in electrical control circuits

## Non-academic activities

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| 2014, 2015 | Engineering Info Class organiser and speaker at Lycée du Nord Wiltz <ul style="list-style-type: none"> <li>• motivating graduation high school students to study engineering by showing them basic concepts in the field of engineering</li> </ul> |
| 2013-Today | Active member of the Musikverein Zürich-Höngg  |
| 2016-2020  | Member of the musical committee of the Musikverein Zürich-Höngg  |
| 2003-2017  | Active member of the town band Harmonie Union Troisvierges   |
| 1998-2012  | Musical education in trombone and guitar playing   |