

# MATTHIAS HUMT

## M. Sc. Robotics

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Munich, Germany

github.com/hummat

## EDUCATION

### Master of Science

#### Technical University Munich

Sep. 2016 – Aug. 2019

Munich, Germany

- Program: “Robotics, Cognition, Intelligence”, CS Department
- Thesis: “Laplace Approximation for Uncertainty Estimation of Deep Neural Networks”, German Aerospace Center (DLR)
- Erasmus: Vrije Universiteit Brussel, Belgium

### Bachelor of Engineering (Dual Studies)

#### Niederrhein University of Applied Science

2011 – 2015

Krefeld, Germany

- Mechanical and Design Engineering, Development
- Dual study program in cooperation with the Siemens AG

### Industrial Mechanic (Dual Studies)

#### Siemens AG

2011 – 2013

Krefeld, Germany

## EXPERIENCE

### Research Associate // PhD Candidate

#### German Aerospace Center (DLR)

Oct. 2019 – Present

Munich, Germany

- Research, paper publication & implementation
- Robotic perception pipeline

### Factory Employee

#### Mercedes-Benz Canada Inc. (Fuel Cell Division)

Oct. 2015 – Dec. 2015

Vancouver, Canada

- Training: Automatic robotic line for fuel cell production

### Industrial Mechanic

#### Siemens AG

2011 – 2015

Krefeld, Germany

- Train construction training (Industrial Mechanic training)
- Internship: Quality/Safety unit, Air Conditioning Systems unit

### Volunteer Worker

#### WWOOF Program

Jan. 2016 – Mar. 2016

Tobermory, Canada

- Helping to build an energy-efficient house

### Peace Worker

#### Civil Peace Service

Oct. 2009

Durban, South Africa

- Construction work for people in need

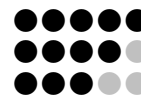
## SKILLS

### Technical

Python, Unix

PyTorch, TensorFlow, C/C++

MATLAB/Simulink, MCU, CAD



### Languages

English



- TOEFL iBt: 106 (CERF: C1 or above)
- 6 months stay abroad in Canada
- English Graduate program

French



- CERF: B2

German



- Native language

## PROJECTS

### Deep Reinforcement Learning for Protein Folding prediction – Completed

- Based on the *AlphaGo* architecture and implemented in Python with TensorFlow
- Complete rewrite of *Monte Carlo Tree Search* in C++ for speed improvement

### Safety verification tool for path planning in Autonomous Driving – Completed

- Based on CommonRoad developed by TUM

### Software Engineering

- Theoretical understanding of software design, algorithms and architectures
- The *Data Structures and Algorithms* course by UC San Diego on *coursera*.

### AI Safety

- Reviewing most important publications in the domain (based on humancompatible.ai bibliography)

### (Deep) Reinforcement Learning

- Studying high impact publications
- Reimplementing major architectures
- Testing on benchmark problems and environments (i.e. OpenAI Gym)

## INTERESTS

