

# MAXIMILIAN FRÜHAUF

Willi-Graf-Strasse 17, Room 709 ◇ 80805 Munich, Germany  
(+49) 151 700 64342 ◇ max@maxfruehauf.com

## EDUCATION

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### Technical University of Munich (TUM)

Candidate for Bachelor of Computer Science with minor in Mathematics

German Average 1.7/5.0; GPA: 3.3/4.0; **Top 10%**

Relevant Coursework: Motion Planning for Autonomous Vehicles, Linear and Convex Optimization, Modeling & Simulation, Computer Networks, Computer Architecture, Linear Algebra, Calculus

**Munich, Germany**

*Oct 2017 - Mar 2021*

### National University of Singapore (NUS)

Exchange semester in English speaking Singapore. GPA: 3.4/4.0

**Singapore**

*Aug 2019 - Dec 2019*

### Hochschule der Medien (HdM)

Started Bachelor Degree in Media Informatics, switched after one year to TUM

German Average 1.1/5.0; GPA: 3.9/4.0

**Stuttgart, Germany**

*Oct 2016 - Oct 2017*

### Aixsponza Internship

3D Design and Rendering Internship, worked for major clothing brands

**Munich, Germany**

*Apr 2015 - Oct 2016*

### Schaller & Partner Internship

3D Product Visualization for print media & Advertisement

**Mannheim, Germany**

*Jan 2016 - Apr 2016*

### cct:Werbeagentur Internship

3D Product Design and Visualization

**Heidelberg, Germany**

*Jul 2015 - Jan 2016*

### Heinrich Sigund Gynasium

High School Diploma, German Average 2.0/6.0

**Schriesheim, Germany**

*Jun 2015*

## EXPERIENCE

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### Research Assistant (HiWi)

*Cyber-Physical Systems Group, TUM*

**Oct 2020 - Mar 2021**

- Further extended SUMO (Simulation Of Urban Mobility) and CommonRoad integration, an autonomous vehicle testing framework by TUM Cyber-Physical Systems Group.
- Assured software quality. Worked with novel, large scale research systems.

### Motion Planning for Autonomous Vehicles

*Undergraduate practical course, TUM*

**Mar 2020 - Oct 2020**

- Majorly extended SUMO) integration with CommonRoad.
- Build reliable GUI for CommonRoad and improved Continuous Integration pipeline

### Naklar.io - Online Tutoring for high school students

*Extra curricular project with other TUM students*

**Mar 2020 - Jul 2020**

- Built platform allowing students to ask questions via video chat and get matched to their perfect tutor naklar.io.
- Developed UI/UX, deployment and video chat (BigBlueButton) integration using web technologies.

### Validation of quantitative results in current paper

*Undergraduate seminar course, TUM*

**Apr 2019 - Aug 2019**

- Reproduced quantitative results of paper *DEBIN: Predicting Debug Information in Stripped Binaries*.
- Validated performance of original code on novel dataset, majorly optimized time- and memory consumption.

## Massively parallel Mandelbrot Visualization

Apr 2018 - Feb 2019

*Undergraduate practical course, TUM*

- Developed UI and Web Frontend for interactive navigation of the Mandelbrot set in TypeScript.
- Build adv. rendering of Mandelbrot set. Set up containerized env. for development & testing of C++ backend.

## LEADERSHIP

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### Academic Tutor

Munich, Germany

*TUM*

*Oct 2018 - Apr 2019*

- Gave tutorials to Computer Science students in first and third semester on: Computer Networks, Computer Architecture & Fundamentals of Databases

### Participant of Ferienakademie

Sarntal, Italy

*TUM*

*Sep 2018*

- Participated in two week extra-curricular research course on Agile Aircraft Design sponsored by Airbus
- Used TensorFlow Object Detection to detect humans in drone images and segmented Terrain types.
- Utilized SCRUM and Agile team management techniques.

### Academic Tutor

Stuttgart, Germany

*HdM*

*Apr 2017 - Oct 2017*

- Gave tutorials to Media Computer Science students in first semester on: Digital Media Technologies & Introduction to Software Development I

## SKILLS

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### Programming Languages

Python, Java, C/C++, JavaScript, HTML, SQL, OCaml,  $\text{\LaTeX}$ , x86/64 ASM, Go  
German (native), English (C2), French (B1) & Mandarin Chinese (A2.1 / HSK 3)

## ACADEMIC ACHIEVEMENTS

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TUM Informatics Award for the Best Teaching (*Preis für die beste Lehre*) twice for tutoring students (2020).

Top 7% TUM Computer Science student in cohort for 4 consecutive semesters.

German Academic Scholarship (*Deutschlandstipendium*) for high-achieving & committed students (2019 - 2020)

German Academic Scholarship (*Deutschlandstipendium*) for high-achieving & committed students (2018 - 2019)

## EXTRA-CIRRRUCULAR

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Active helper in festivals organized by the students association of TUM.

Ball room dancer and road cyclist

Participated in MIT Open Course Ware Online Courses on Mathematics and Machine Learning

Took part in 3-Day seminar, teaching how to tutor university students