Karahan Yılmazer

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EDUCATION

10.2022 – present Munich, Germany	**Technical University of Munich,** *Elite Master of Science in Neuroengineering* • Tentative overall grade: 1.4** • Student representative • Deutschlandstipendium recipient (WS 23/24)
10.2022 – present Munich, Germany	**Ludwig Maximilian University of Munich,** *Elite Master of Science in Neuro-Cognitive Psychology* • Tentative overall grade: 1.4
04.2022 – present Munich, Germany	**Technical University of Munich,** *Master of Science in Electrical and Computer Engineering* • Tentative overall grade: 1.7
10.2018 – 02.2022 Munich, Germany	**Technical University of Munich,** *Bachelor of Science in Electrical and Computer Engineering* • Thesis topic: **Eye Blink Detection and Motor Imagery Using A Wireless EEG: An Investigation**, Grade: 1.3 • Overall grade: 2.2

04.2021
Virtual
	BCI & Neurotechnology Spring School, *g.tec medical engineering GmbH*
	• Attended lectures about various topics from **brain research**
	• Attended the **BR41N.IO Hackathon**
	  - Developed a competitive multiplayer video game using **EEG-based BCI using motor imagery** and Python
	  - Rewarded with **3rd place for programming projects**

08.2020 – 12.2020 Virtual	**Norwegian University of Science and Technology,** *Exchange Semester* • **Introduction to Neuroscience**, Grade: A - Presentation topic: **Emergent Properties of Neuronal Networks**
02.2013 – 05.2018 Istanbul, Turkey	**German High School of Istanbul,** *Abitur* • Abitur grade: 1.4 • Abitur subjects: Mathematics, Biology, German, English

* *In the German grading system, grades range from 1.0 (very good) to 5.0 (fail).*

PROFESSIONAL EXPERIENCE

10.2021 – 06.2023 Munich, Germany	**Research Assistant,** *Institute for Cognitive Systems, Technical University of Munich* • Served as the **primary contact for EEG systems**, overseeing and maintaining the devices • Designed and tested **home appliance systems for a spinal cord injury patient** • Conducted **motor imagery recordings and analysis** using EEG • Implemented **online eye blink detection** and **external device control** using EEG
04.2021 – present Munich, Germany	**Teaching Assistant,** *Technical University of Munich* • Python Workshop (WS 20/21 - WS 23/24) • Neuroprosthetics (WS 22/23 - WS 23/24) • Biosignal Processing and Modeling (SS 23) • Human-Centered Neuroengineering: Cybathlon (SS 22) • Signal Processing: Dynamic System Modeling (SS 22) • Machine Intelligence and Society (in Python) (SS 22) • Physics for Electrical Engineers (SS 21) • C++ workshop (WS 20/21)

INTERNSHIPS

08.2023 – present
Berlin, Germany

Internship, *Prof. Surjo R. Soekadar - Clinical Neurotechnology Lab*
- Classification of rock-paper-scissors gestures recorded using **optically pumped magnetometers (OPM)**
- Review of brain-computer interfaces for neurorehabilitation of stroke patients

03.2022 – 04.2022
Munich, Germany

Internship, *Prof. Simon Jacob - Translational NeuroTechnology Laboratory, Technical University of Munich / Prof. Moritz Grosse-Wentrup - Research Group Neuroinformatics, University of Vienna*
- Set up the hard- and software for the **Brain-AI-Interfaces project** involving an **aphasia patient** that will be implanted with a **microelectrode array**
- Worked on an **automatic spike sorting** pipeline

05.2021 – 07.2021
Munich, Germany

Internship, *Prof. Gordon Cheng, Nicolas Berberich - Institute for Cognitive Systems, Technical University of Munich*
- Developed a systematic way to **assess the signal quality of EEG** recordings
- Made **rest state and mental load recordings** with different EEG systems

10.2020
Istanbul, Turkey

Internship, *Prof. Ata Akin - Acıbadem University*
- Researched **fundamental topics in brain research**
- Statistical analysis of **Stroop test** results

10.2019
Vienna, Austria

Internship,
Prof. Moritz Grosse-Wentrup - Research Group Neuroinformatics, University of Vienna
- Set up **research-grade wet EEG systems**

07.2016
Istanbul, Turkey

Internship, *Prof. Reyhan Küçükkaya - Istanbul Florence Nightingale Hospital*
- Observed the following surgeries/operations/medical examinations:
Open heart, Scoliosis, Prostate, Lengthening, Hematology, Ophthalmology

PUBLICATIONS

2023

Investigating the relationship between cue immersion and the strength of motor imagery during hand and wrist movements, *IEEE*

2023

Grip Force Dynamics during Exoskeleton-Assisted and Virtual Grasping, *ICORR*

LANGUAGES

Turkish	**English**	**German**	**Norwegian**
Native	*C1, TOEFL iBT Score: 113*	*C1, German Abitur*	*A2, TUM Language Course*

SKILLS

Programming Languages	**Software**	**EEG**	**Microcontrollers**
• *Python* • *MATLAB* • *C++* • *C*	• *Machine Learning* • *Data Analysis* • *3D Modeling (Blender & Fusion 360)* • *GUI Development (Qt Creator)*	• *Setting up and recording* • *Setting up computer-driven experiments* • *Data analysis (MNE & EEGLAB)*	• *ESP32* • *Raspberry Pi* • *Arduino*

INTERESTS

TEDxTUM Curation Team Member | **President of the International Committee of Olydorf**

Head of "Science Orientation Week" Team | **Head graphic and logo designer in school magazine "Çizgi"**

Electric Guitar *(London College of Music Examinations Grade 4)* | **SSI Open Water Diver** | **Advanced Skier**

Aikido *(Brown belt, Yeşilyurt Sports Club)* | **Brazilian Jiu-Jitsu** *(White belt with two stripes, Pound for Pound Munich)*