

ALEXANDER STACUL

Master of Science in Engineering (M.Sc.)

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GENERAL SKILLS

Data Sciences, Data Analysis, Data Visualization, Machine Learning, Deep Learning, Pattern Recognition, Database Structure and Algorithms, Statistical Analysis, Data Preparation, Tissue Engineering.

TECHNICAL SKILLS

Languages Matlab, Python, C++, C, Prolog, SQL, Bash, R(-Studio).

Tools and Libraries Creo Parametric, Fusion360, AutoCAD, \LaTeX , scikit-learn, pandas, SciPy.

LABORATORY SKILLS

Biomechanics Gait- and Video analysis, Pressure insoles, Forceplates, Electromyography, Electrocardiogram, Functional electrical stimulation.

Wet Lab Biocompatibility and Biocytotoxicity tests, Electrophoresis, Cell culture, Scaffolding, Fluorescence Microscopy.

EDUCATION

- 11/2024 - today **PhD in Biomedical Sciences** **Universität Bern**
Schweizer Paraplegiker-Forschung (SPF)
SCI Population Biobanking and Translational Research
- 9/2022 - 10/2024 **M.Sc Healthcare and Rehabilitation Technology** **University of Applied Sciences Vienna**
Erasmus: Heidelberg University Hospital (Section Experimental Neurorehabilitation)
- 9/2019 - 5/2022 **B.Sc Human Factors and Sports Engineering** **University of Applied Sciences Vienna**
Votation: 1.0

EXPERIENCE

- 10/2023-09/2024 **Heidelberg University Hospital (Section Experimental Neurorehabilitation)** **Master Thesis**
Data Scientist, Data Analyst, Researcher.
• Extension of stay in the research group of Prof. Dr.-Ing. Rüdiger Rupp with the objective of enhancing the machine learning model and incorporating FES feedback to address gait abnormalities in iSCI individuals.
- 08/2023-09/2023 **Heidelberg University Hospital (Section Experimental Neurorehabilitation)** **Master Research Internship**
Data Scientist, Researcher.
• Internship in the group of Prof. Dr.-Ing. Rüdiger Rupp for developing a feasible machine learning algorithm for real-time gait cycle estimation in individuals with incomplete spinal cord injury.
- 02/2022-06/2022 **AFN Sports Sdn. Bhd., Malaysia** **Bachelor Internship**
Technical Drawer, Installation Supervisor.
• Internship at the sports equipment supplier and manufacturer AFN Sports as a technical drawer and installation supervisor.

PROJECTS

- Master **Master Thesis** **Heidelberg, Germany**
Taking Steps Towards Progress: Development, Implementation and Evaluation of methods for enhancement of real-time movement feedback therapy by functional electrical stimulation.
- Master **University Project** **Vienna, Austria**
Development of a lockable elbow orthosis to support static loads in surgical assistance (Functional prototype).
- Master **University Project** **Vienna, Austria**
Biomechanical differences in single-leg drop landings between healthy individuals and recovered ACL patients.
- Bachelor **Bachelor Thesis** **Klang, Malaysia**
Optimization of the track and field hurdle to avoid operational errors regarding the height-counterweight proportion.

LANGUAGES

English - C2, **German** - native, **Italian** - native