CURRICULUM VITAE
Micha Johannes Birklbauer, MSc

PERSONAL DETAILS

Date of Birth: 10th August 1995

Mail: micha.birklbauer@gmail.com

Web: michabirklbauer.github.io

GitHub: github.com/michabirklbauer

SKILLS

C#, Python, R, Matlab, C++

Keras, TensorFlow

NumPy, pandas

NLTK, Gensim, spaCy, openCV

Streamlit, Shiny, Tidyverse, ggplot

Docker, Git/GitHub, CI/CD

Data pre-processing, machine learning,

statistics, visualization, etc.

PERSONAL INTERESTS

Bicycling

Painting

Reading books, comics, etc.

Philosophy

Writing (personal blog, texts, etc.)

RESEARCH EXPERIENCE

Since October 2021 | RESEARCHER/PHD STUDENT IN COMPUTATIONAL PROTEOMICS

University of Applied Sciences Upper Austria, Hagenberg
Project: "New enrichable cross-linkers and data analysis algorithms for system-wide protein-protein interaction analysis by mass spectrometry."

- Identification of cross-linked peptides in MS3 spectra
- Integration into MS Annika, a cross-linking search engine for Proteome Discoverer

January 2021 – September 2021 | MASTER THESIS

University of Applied Sciences Upper Austria, Hagenberg
In cooperation with Paracelsus Medical University Salzburg
Title: Automatic identification of important interactions and interaction-frequency-based scoring in protein-ligand complexes

- Identification of important amino acid interactions
- Scoring compounds based on interaction frequencies
- Automation of the process and implementation as a standalone tool in Streamlit/Docker

October 2020 – January 2021 | BIOMEDICAL PATENT CLASSIFICATION

University research project for Roche Diagnostics
Classifying patents for biomedical products into relevant or non-relevant categories

- Natural language processing for biomedical text
- Comparison of different machine learning methods like random forests, boosted trees and support vector machines
- Deep learning with word-vector embedding and bidirectional recurrent networks

March 2020 – June 2020 | BIOMEDICAL NEWSFEED FOR SCIENTISTS

University research project for Roche Diagnostics
Building a search engine for biomedical news

- Natural language processing for biomedical text
- Similarity search with cosine distance in TF-IDF vector space and fast matrix multiplications

EDUCATION

2019 – 2021 | MASTER STUDY "DATA SCIENCE AND ENGINEERING"

University of Applied Sciences Upper Austria, Hagenberg, full-time
Specialization: Marketing and Production, Data-Driven Drug Design
Master Thesis: Automatic identification of important interactions and interaction-frequency-based scoring in protein-ligand complexes

2015 – 2019 | BACHELOR STUDY "BIOINFORMATICS"

Johannes Kepler University, Linz, full-time
University of South Bohemia, České Budějovice, full-time
Bachelor Thesis: Imputation of missing values in clinical data