Jonas Klotz

Experience

Vocational

2021–today **Software Development Working Student**, *KNIME GmbH*, Berlin
Python, Java, Data Engineering, Pandas, Pyarrow
- Implemented and improved extension type system for pandas and pyarrow.
- Implemented geospatial extension types for KNIME Python Nodes in cooperation with CGA of Harvard University

2018–2021 **Teaching Student Assistant**, *Technical University*, Berlin
C, Java, Algorithms, Data Structures, SQL, Databases
- Contribute to the development of appropriate teaching materials to ensure content and methods of delivery meet learning objectives
- Conceptual design of task sheets with automatic tests
- Student-friendly communication of methods and results

2016–2019 **Owner/Operator of E-Commerce Store**, *Klotz & Kämpfer GbR*, Berlin
Business administration, Financial management, Marketing
- Created, developed and launched an E-Commerce shop selling smartphone equipment

Miscellaneous

2017 - today **Founding member of Digitale Freiheit e.V.**
Initiative for data protection and informational self-determination
- Organization of the German "Stop Facial Recognition" alliance
- Co-organization of the large-scale demonstration against upload filters in Berlin 2019

2015–2016 **Year abroad in India and Nepal**
Improvement of English skills

2009 - 2014 **Chess**
former member of the chess club Kreuzberg e.V.

Education

2021–today **MSc Computer Science**, *Technical University*, Berlin, -
Focus on ML, Computer Vision and Remote Sensing

2017–2021 **BSc Computer Science**, *Technical University*, Berlin, *2.4*
Focus on ML and Computer Vision

Languages

German Native
English C1

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Skill matrix

Level	Skill	Years	Comment
■■■■■	Python	5	*Proficient in various libraries such as NumPy, Pandas, Matplotlib and more*
■■■□□	Java	3	*Skilled in Java EE technologies for building robust applications and applying object-oriented programming principles to create efficient and maintainable Java code*
■■■□□	SQL	3	*Database management, data extraction, and data analysis, utilizing SQL commands*
■■■■□	Deep Learning	5	*Used PyTorch and TensorFlow to develop and implement advanced neural networks*
■■■■□	Computer Vision	3	*Used OpenCV in Python and C++, e.g. for object detection, image filtering, and feature extraction*
■■■■□	Linux	5	*Bash, Ubuntu, Fedora*
■■■□□	Cloud	3	*Realized multiple deep learning projects on AWS and High Performance Cluster of TU Berlin*

Selected Projects

2023 **Data Science for Social Good - Land Use Monitoring**

Built a textual dataset for monitoring land use in Germany

- Scraped legal documents data from German geo-portals
- Applied Optical Character Recognition and image extraction techniques
- Leveraged Natural Language Processing, then extracted and analysed text information

2022 **Label Noise in Multi Label Classification for Remote Sensing**

Implemented a noise-robust multi-label classifier for RGB satellite images

- Implementated an auto-encoder graph neural network
- Utilized the word2vec representation of label names as a feature
- Engineered a data pipeline to process a large amount of data
- Pytorch, Glove,

2021 **Chess Vision - Bachelor Thesis**

Developed an algorithm for the detection of a chess board and chess position in an image

- Combination of machine learning and classical computer vision methods
- Tensorflow, OpenCV, SciPy, NumPy

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