CV
Kilian Kramer

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References: Homepage, LinkedIn

Marital status: single
Date of birth: March 7, 1997

Extensive project experience with ML models and full-stack development

Extensive project experience in training various machine learning models, especially deep learning models, as well as model integration into back- and front-ends using different programming languages and frameworks.

Professional skills and competencies

- Expert in Python
- Proficient in Vue.Js, JavaScript, TypeScript, HTML, CSS; Competent in C++, Java
- Experience with PyTorch and TensorFlow, specializing in Natural Language Processing (NLP), Computer Vision, Deep Learning, Recommendation and Scheduling Systems
- Development of APIs with Node.js, Docker, FastAPI, Flask, Firebase, Postgres, MariaDb, HeidiSql, GraphQl, Elasticsearch, Postman and Curl-Testing
- Data pipelines: Data organization (proficient in web crawling/scraping), analysis, visualization, preparation and augmentation
- Github/Gitlab/Bitbucket, Confluence, Scrum, CI/CD, TDD, Pair Programming, Code Reviews and Google Cloud Platform (GCP)

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Professional experience

Sep. '23 – Aug. '24 **Master Thesis**
Department of Advanced Computing Sciences, Maastricht University
Title: Combining Multi-Scale Kernels and Transformer Encoder for ECG classification
- Development of various neural networks, e.g. CNNs, Transformer and other classification models for the classification of 30 cardiac arrhythmias using PyTorch, TensorFlow and about 150.000 electrocardiograms from the PhysioNet 2021 challenge database.

Feb. – Jul. 2024 **Junior Python Developer (6 month, full-time)**
Ella Media AG, Cologne
Ella specializes in generative AI for media and content creation.
- Refactoring backend architecture with FastAPI, Docker and GCP.
- Product development: Personalized audio / video avatar with integration of language models and internal knowledge / memory based on vector databases and retrieval augmented generation.

Sep. 22 – Dec. '23 **Internship and working student**
NextAudit, Aachen
NextAudit offers a web-based audit management software, the AuditCloud. A special feature includes the AI system I developed.

Sep. '22 – Feb. '23 **Internship (6 month, full-time)**
- Development of an AI system named KIRA (KI Reduziert den Arbeitsaufwand / AI Reduces the Workload) based on fine-tuned language models with interface to vector databases. Integration of the system into the back- and front-end using Vue.js/TypeScript, Firebase, Flask, Docker and GCP.

Feb. – Dec. 2023 **Working student (10 month, 10-20h/week)**
- Activities included further features for the AI system, analyses of company data and visualizations with interactive dashboards, as well as improvements to the UX/UI.

Mar. – Aug. 2022 **Working student (6 month, 10h/week)**
Department of Advanced Computing Sciences, Maastricht University
- Assistance in the development of an internal research platform with Vue.Js, GraphQl and Neo4j.

Mar. '20 – Sep. '21 **Bachelor Thesis and working student (6 month, 10h/week)**
Maskor Institute, University of Applied Sciences Aachen
- Bachelor thesis with application for autonomous vehicles: Development of a resource and fleet planning system for an autonomous vehicle fleet in mines (Project: ARTUS).
- Based on my thesis, I integrated and tested the fleet planning system on the vehicles with ROS2 in a working student job.

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Sep. '19 – Feb. '20 **Two internships (6 month each, 15-20h/week)**
University of Applied Sciences Aachen, Outright Vision GmbH Cologne

- Development of a website for the university canteen (as part of a course internship) using C#, MariaDb and HeidiSql.
- Development of a recommendation system for a holiday portal. Analysis of different algorithms, e.g. collaborative filtering and k-NN, as well as integrating the models into a web-interface.

Study / School

2024 **Master of Science – Artificial Intelligence**
Maastricht University
GPA: 7.15 (max. 10, Dutch grading system)
Master Thesis grade: 7.0
Title: Combining Multi-Scale Kernels and Transformer Encoder for ECG classification (Github)

2021 **Premaster – Artificial Intelligence** (Maastricht University, 30 Credits)

2021 **Bachelor of Science – Business Informatics**
University of Applied Sciences Aachen
GPA: 2.1 (max. 1.0, German grading system, ECTS: A)
Bachelor Thesis grade: 1.3
Title: Hierarchical Task Network (HTN) planning under resource and time constraints in hybrid mines (Github)

2015 **Graduation (Abitur)**
Georg-Büchner-Gymnasium, Cologne Weiden

Further skills

Programming languages	Python, Vue.Js, JavaScript, TypeScript, HTML, CSS, C++, Java, C#, Bash, Git, Lisp, Lua, Swift
Frameworks and platforms	Node.Js, Docker, FastAPI, Flask, Firebase, Elasticsearch, SQL (Postgres, MariaDb, HeidiSql), GraphlQl, Neo4j, GCP, AWS
Machine Learning	PyTorch, TensorFlow, Scikit-learn, SciPy, OpenCV, SpaCy, NLTK
Tools	Github/Gitlab/Bitbucket, Confluence, MS Teams/Excel/Powerpoint, Slack, Figma, Latex
Languages	German (native speaker), English (business fluent)

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Personal interests

Sport	Basketball, fitness and running
Hobbies	Digitalization and travel to foreign cultures

Kilian Kramer Cologne, 12 December 2024