Curriculum Vitae
Mohamed Matar

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Ingostraße 11
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Germany

Personal Information

Date of Birth	September 8th, 1998
Place of Birth	Berlin
Nationality	German

Academic Education

Master Student for Computer Science — **Technische Universität Berlin** (2021 – 2025)
Focus: Cognitive Systems
Thesis: Development and Evaluation of Automatic Passenger Counting System based on 2D Video Data combining LSTM and U-Net (Grade: 1.3)

Corporate Bachelor Student for Business Information Systems — **Duale Hochschule Baden-Württemberg**
Partner: IBM (2017 – 2020)
Thesis: Hybrid Approach for the Detection and Resolution of Redundancies and Orphan Concepts in large Business Glossaries

A-Levels — Gustav-Heinemann-Oberschule, Berlin

Professional Experience

Technical University Berlin (Research Assistant) Mar 2025 – Sep 2025

- Scholarship for continued work on Master thesis Project
- Developed a U-Net and LSTM Hybrid Model for Automatic Passenger Counting
- Optimized Performance by testing several Model Architectures
- Evaluate Performance on Train Passenger Video Data

Universal Music Group (Data Scientist) Nov 2020 – Nov 2021

- Built Data pipelines and Jupyter dashboards to analyze artist performance, A/B test results, and campaign impact on listenership
- Presented analytical insights to stakeholders, supporting marketing strategy and release planning
- Enhanced TF-IDF genre clustering system using user-generated playlists to embed artists into a high-dimensional similarity space for automated genre grouping

IBM Cooperate (Internships)

Data Scientist – Armonk, New York, USA Feb 2020 – May 2020

- Designed and implemented three modules (graph-based, database similarity, and NLP-based) for detecting and resolving redundancies and orphan concepts in large business glossaries
- Developed a novel database similarity scoring method using relational metadata
- Evaluated the use of BERT and other Topic Discovery NLP Methods with multiple similarity metrics (cosine, Dice, Jaccard) into a hybrid model, forming the basis of my Bachelor's thesis

Data Scientist - Armonk, New York, USA May 2019 – Aug 2019

- Analyzed IBM's Data Lake metadata to identify inconsistencies and improve data quality
- Built and compared NLP models (LSA, TF-IDF) to detect and link semantically related entities across relational databases
- Automated repair workflows using Python, reducing manual database maintenance

Software Engineer –Böblingen, Germany Dec 2018 – Jan 2019

- Evaluated and deployed a new credential management solution by testing alternatives and implementing HashiCorp Vault with LDAP authentication and Ansible integration
- Migrated credentials from KeePass to Vault using custom Python scripts, and documented configuration, backup, and operational procedures for team adoption

Hardware Software Engineer –Ehningen Germany Jun 2018 – Sep 2018

- Improved modularity, stability, and functionality of NAO a humanoid robot client showcase using Gentoo Linux, Node.js, and Python integrations
- Added interactive skills demonstrating IBM Cloud AI products, including NLP and computer vision capabilities

Full Stack Engineer –Böblingen, Germany Dec 2017 – Mar 2018

- Developed an interactive car cockpit web-app showcase for Watson Content Hub (WCH) using HTML, CSS, JavaScript, and Node-RED
- Simulated IoT sensor data integrate with WCH for personalized coupon suggestions

Skills

Programming Languages	Python, Javascript, TypeScript, C#, SQL, NodeJS, HTML, CSS, Java
Technologies	TensorFlow, PyTorch, Huggingface, React, Angular, Vue, NodeJS, .NET, Tableau, Unity
Languages	German (First Language) English (Cambridge C1 Certificate) Arabic (Mother Tongue)

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