Kerem Keptig

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Würzburg, Germany

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EDUCATION

10/2024 – Present
Würzburg, Germany

M.Sc. in Artificial Intelligence & Extended Reality
Julius-Maximilians-Universität Würzburg

09/2019 – 06/2024
Guzelyurt, Cyprus

Bachelor's degree in Computer Engineering
Middle East Technical University

WORK EXPERIENCE

07/2023 – 09/2023
Remote – Turkey, Istanbul

Software Developer Intern
CloudCan

- Developed and deployed a REST API, providing secure login-only access with JWT authentication and email-based registration by building with Flask on Azure and deploying with Docker containers.
- Increased API efficiency by 30% through systematic testing with Postman and improving backend logic.
- Built and maintained a secure PostgreSQL infrastructure on Azure, using Key Vault for credential management, backups, and monitoring to ensure fast, reliable data access.

04/2022 – 06/2023
Part-time – Cyprus, Guzelyurt

Student Assistant
Middle East Technical University Northern Cyprus Campus

- Supported over 30 students in programming exercises by answering queries and clarifying concepts.
- Improved student understanding of advanced topics by explaining core principles in C++, Haskell, and Prolog.

07/2022 – 08/2022
Remote – Turkey, Istanbul

Software Developer Intern
Demirören Teknoloji

- Built and automated a scalable IMDb web crawler, extracting over 200,000 pages in 4 hours by using Python on AWS, via EC2 and Lambda to ensure scalability and fully automated data collection.
- Implemented optimized data extraction pipelines, reducing storage overhead by 30% and enabling analysis-ready CSV files in Amazon S3 for faster queries.
- Utilized multi-threading across multiple servers, resulting in a 16x increase in data extraction speed, significantly enhancing processing efficiency and reducing wait times.

TECHNICAL SKILLS

Languages
Python, Java, SQL, C++, C, MATLAB, Haskell, Prolog, Verilog-VHDL

Developer Tools
AWS, Azure, Docker, Git, Postman

Libraries/Frameworks
ReactJS, Flask, PostgreSQL

PROJECTS

OCR Quality Assessment for Historical German Texts
ReactJS | Python
- Trained a page-level OCR error predictor on over 500 annotated pages, achieving a correlation of 0.94 by building a Random Forest model with Scikit-learn, Sentence-Transformer embeddings.
- Designed word-level unsupervised LLM methods with PyTorch, Transformers, using chunked perplexity and log-likelihood to detect anomalies and reduce human annotation workload by 70%.
- Developed an interactive GUI with Flask and ReactJS to visualize OCR outputs and quality scores.

MRI Coil Configuration Optimization Hackathon
Python | PyTorch
- Implemented phase and amplitude tuning algorithms to improve B1+ field homogeneity and minimize peak SAR using precomputed electromagnetic field data.
- Achieved 2nd place among 7 teams with up to 65% higher homogeneity and 430% better SAR-constrained performance through physics-informed optimization.

Autism Pre-screening Web App
JavaScript | Python
- Integrated a webcam-based eye-tracking system for real-time autism screening using WebGazer.js with calibration routines.
- Trained Random Forest and Logistic Regression models in Scikit-learn on gaze-based features and metrics such as fixations, revisits, and time-to-first-view, achieved 76.3% accuracy.
- Developed a full-stack platform for secure test administration and patient management using Flask, SQL, and a JavaScript/HTML/CSS front end.

Language Skills

English
Fluent (C1)

Turkish
Native

German
Beginner (A2), currently learning

Achievements

- 2nd Place, 2025 Spring School Hackathon on Physics-Informed ML for Medical Sciences
- Honor/High Honor List, METU (2021–2024)