Volkan Gülen — CV

EXPERIENCE

WHEN	WHERE	WHAT
Dec 2022 — (ongoing)	Mimi Hearing Technologies GmbH	Senior SW & Infrastructure Engineer
Dec 2021 — Dec 2022	UAHero AI	Senior SWE
Aug 2020 — Dec 2021	OBSS	SWE
Sep 2016 — Aug 2020	Usta Bilgi Sistemleri	SWE

PROJECTS

Mimi

Mimi Hearing Technologies GmbH is a company specializing in developing advanced audio technologies that adapt sound to individual hearing profiles. They focus on enhancing audio experiences through personalized hearing solutions, often integrated into consumer electronics, such as headphones, smartphones, and other audio devices. Mimi's technology allows users to tailor sound to their unique hearing abilities, improving clarity, reducing strain, and providing a more immersive listening experience. The company's mission is to make sound more accessible and enjoyable for everyone, regardless of their hearing capabilities.

- Enhanced system robustness by implementing high availability and disaster recovery strategies.
  - Eliminated single points of failure through redundancy and failover mechanisms.
  - Deployed clusters to safeguard against potential vulnerabilities.

- Boosted system performance and reliability.
  - Achieved a 40% reduction in overall latency.

- Expanded platform capabilities to support multiple clients and regions.
  - Introduced support for Chrome extensions.
  - Enabled multi-region functionality.
  - Managed region-specific configurations.

UAHero

UAHero is a hyper-casual and casual mobile game campaign management system designed to optimize client campaign bids and budgets, with the goal of maximizing Return on Ad Spend (ROAS) or minimizing Cost Per Install (CPI). The entire system is built on Amazon's serverless infrastructure.

- Spearheaded the management and optimization of the serverless infrastructure.
- Developed and integrated network features, ensuring seamless functionality.
- Implemented robust monitoring and notification systems.
- Refined, refactored, and enhanced underperforming and error-prone modules.
- Designed and implemented serverless React UI components.

YAKUD

YAKUD is an advanced space awareness system that tracks tens of thousands of satellites and debris orbiting the Earth. The project utilizes event-driven Java microservices, a Kafka message queue, and a data persistence layer that transitioned from MongoDB to PostgreSQL. Key features include:

- Real-time visualization of over 50,000 objects using Cesium.
- Classification of orbital paths and types.
- Advanced tracking and filtering of satellites based on orbit type, use-case, ownership, and other attributes.
- Instantaneous position calculation for any future or past time.
- High-performance clean area calculations and crash analysis, performing millions of concurrent positional calculations with maximum CPU utilization in mere seconds.
- A highly flexible web client interface.

IRONBIRDB

As part of the HÜRJET Advanced Jet Trainer and Light Attack Aircraft project, developed a distributed time-series data processing environment to handle simulated flight data. Implemented CassandraDB for data storage, with Apache Spark and HDFS running on highly available Docker containers. Created a Spring Boot web console application for monitoring cluster details using Prometheus and Grafana exporters. Included functionality for triggering manual backup and restore operations, in addition to automated scheduled jobs, with data stored on cold storage units connected to the network.

HRM

Developed a webcam-based heart rate monitor that achieved a 97.5% confidence interval when compared to the "Garmin HRM-Run" and "Polar H10" chest heart rate monitors. This was accomplished using advanced signal processing and face detection techniques, leveraging SciPy and OpenCV.

REHIS

Developed an anomaly detection and fault localization system for radar sensor data analysis. Utilized SciKit and SciPy for machine learning, along with NumPy and Matplotlib for data preparation and visualization. Additionally, created a Flask web application enabling users to manually analyze uploaded sensor data using various machine learning algorithms. The application supports automatic generation of plots,

graphs, and key investigation points. Implemented the Dash framework for features such as plot generation, downloading, scaling, and panning.

KOBIT

Developed ERP, Accounting, and Business Intelligence solutions for Kredi Garanti Fonu, a financial support institute, using the .NET MVC Framework. This modular web solution integrates with over 40 financial institutions and multiple data providers, managing millions of transactions daily via REST and SOAP APIs, as well as the web application itself.

- Designed and implemented new features to enhance functionality.
- Monitored and optimized the performance of existing modules through continuous refactoring and rewriting.
- Applied domain knowledge to deliver result-driven support via a management engine.
- Collaborated with the IT department and management to quickly address mission-critical issues and feature requests.

EDUCATION

2015–2019	**Computer Engineering,** Middle East Technical University
2011–2015	**Civil Engineering,** Middle East Technical University
2007–2011	Bursa Anatolian High School

CERTIFICATIONS / WORKSHOPS

September, 2020	Machine Learning With Python, Coursera
September, 2020	Data Analysis With Python, Coursera
October, 2021	AWSOME Day Online Conference
Jan, 2021	Cloud-Native Workshop: Introduction to Apache Cassandra for Developers, DataStax
October, 2021	Machine Learning using Containers with Amazon SageMaker, Kommunity

SOCIAL

2022– (ongoing)	Team Energetics
2020–2022	Trimetheus Triathlon Team
2018–2020	Metu Triathlon Team

2017–2018	Metu Jazz Orchestre, Guitarist