

Arturk Mammadli
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EXPERIENCE

Caspian Innovation Center (CIC), Baku, Azerbaijan

Aug 2023 – Present

Software Engineer (Backend, Data Science, Machine Learning)

- Developed backend for automating data engineering pipelines from data validation stage to reporting stage for “Carbamide Plant Digital Dashboard” project under “SOCAR Digital Transformation” project, having an annual impact of \$8-15 million.
- Engineered software solutions for optimizing natural gas utilization, reducing CO2 emissions, conserving water (steam), and minimizing energy costs in the Carbamide Plant and utilized data science techniques to build and implement machine learning models for these purposes.
- Built a demand forecasting system under “Population Gas Demand” project for SOCAR's Azerigas PU, improving accuracy by 15% in predicting future natural gas demand in Azerbaijan.

State Oil Company of Azerbaijan Republic (SOCAR), Baku, Azerbaijan

May 2021 – Aug 2023

Software Engineer (Backend), Software Development Department

- Developed web application for SOCAR’s internal use to store user data for both internal and external job applications to ease HR Department’s effort, reducing their daily workload by two hours, and advocated the Data Management Department to use this web application, resulting in the creation of a candidate suggestion system and avoiding an additional \$120,000 cost allocated for this purpose.
- Contributed to backend development for the “RocWeb” project and the preparation of OOP and ORM policy documentation, winning a tender worth \$1,500,000 and serves three major departments of SOCAR.
- Engineered and deployed a desktop application for automatically parsing and recording specific data of xGSM devices, wrote a script to establish modem communication with remote operational controller (ROC) devices through this desktop application, reducing three-hour manual work daily.
- Implemented MQTT client API to establish communication with electronic volume corrector (EVC) devices of SOCAR's Azerigas PU, saving \$315,000 for the client by avoiding extra expenses, and provided the Data Management Department with this API for data analysis & machine learning purposes.

State Oil Company of Azerbaijan Republic (SOCAR), Baku, Azerbaijan

Sep 2018 – May 2021

Control & Automation Engineer, Automation Solutions Department

- Designed Grafana dashboards to ensure real-time visualization for the “ROC Monitoring” project, serving to monitor 542 measurement points across Azerbaijan and saved \$1,258,800 for the client by abandoning expensive PLC + SCADA solution.
- Constructed the schema of the InfluxDB time-series database and integrated the “ROC Monitoring” project of SOCAR's Gas Export Department into this database.
- Designed SCADA system, programmed HMI, created DataLogger, Historian, Alarm & Notification system for the “Regimes Control of Gas Distribution Stations” project of the SOCAR's Azerigas PU, serving 14 gas distribution stations in Baku.
- Implemented the OPC server setup for the first time in the history of SOCAR for the “Automatic Gas Distribution Devices” project of SOCAR's Azneft PU, serving 19 platforms and prevented \$542,000 additional cost for the client by avoiding expensive SCADA solution.

Middle East Technical University (METU), Ankara, Turkey

Dec 2015 – Jun 2018

Private Tutor on Data Structures and Algorithms

- Mentored 30+ students studying across three CS-related departments at four universities on DSA.

EDUCATION

Middle East Technical University (METU), Ankara, Turkey

Sep 2010 – Jun 2016

B.S., Electrical & Electronics Engineering

- Focused on Control Systems and Computer Engineering.
- Data Structures and Algorithms, Computer Architecture, C Programming, Digital Signal Processing, Discrete Time Systems, Feedback Control Systems, Process Control, Control System Design and Simulation, etc.

SKILLS

- Algorithms, Data Structures, Java, JSP, JPA, Hibernate, Spring Boot, Spring Data, Spring MVC, Spring Security, Python, Django, Flask, Data Science, Machine Learning, Git, HTML, CSS, Bootstrap, JavaScript, Restful API, MySQL, PostgreSQL, InfluxDB, Flux, Grafana, MATLAB, OPC, MQTT, Modbus, PLC, SCADA.