

MOHAMMED FADEL SEMLALI

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EDUCATION

King Fahd University of Petroleum and Minerals

Expected May 2026

Bachelor of Science, Computer Science

Relevant Coursework: Machine Learning, Algorithms, Software Architecture, Databases, Data Structures

Senior Design: Localized Multi-Objective Fleet & Route Optimization Platform for Saudi Arabia

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, TypeScript
Machine Learning: PyTorch, Scikit-learn, XGBoost, pandas, NumPy
Web & Backend: React.js, Node.js, ASP.NET Core, Spring Boot
Databases: PostgreSQL, SQL Server, MongoDB
DevOps & Tools: Docker, Azure, Git, CI/CD, Postman

EXPERIENCE

King Faisal University — Software Developer Intern

Jun – Aug 2025

- **QR Attendance System:** Wrote the SRS and Figma prototypes; built an ASP.NET Core MVC backend with RESTful APIs and a normalized relational database. Worked in Agile sprints.
- **Khbrtik** (company-student project marketplace): Implemented 20 of 40 RESTful API endpoints, including hour-based reward tracking, company-to-student matching, and role-based access control.

PROJECTS

Senior Design — Fleet & Route Optimization Platform

Jan – May 2026

Python, XGBoost, OR-Tools, Flask, React, TypeScript, MongoDB, PuLP, ESP32, Leaflet

- Trained an XGBoost machine learning model for time-series demand forecasting, achieving **89.4% accuracy** on 547K rows and **93.98%** on a 17M-row Alibaba dataset; applied feature engineering for Saudi-specific demand drivers (prayer-time windows, heat bans, Ramadan/Eid demand spikes) across 96 AOIs in 10 Riyadh regions.
- Designed a full-stack VRP optimizer using Mixed-Integer Linear Programming, with model deployment through a Flask REST API, hitting **15% cost** and **10% CO₂ reductions** with re-optimization in **3–8 seconds**.

Saudi Sign Language Recognition

Aug – Sep 2025

Python, PyTorch, BiLSTM, Transformer Encoder-CTC

- Developed a deep learning sequence model that takes 2D keypoints (body, hands, lips) and outputs Arabic gloss sentences on the Isharah dataset (9,500/949 split).
- Iterated from BiLSTM to a Transformer Encoder-CTC; WER dropped from 0.846 to 0.157, an **81% relative reduction**.

Enjazi — Full-Stack Productivity & Gamification Platform

Jan – May 2025

React, Node.js, Express, MongoDB, JWT, Tailwind CSS, Auth0

2nd Place, Software Engineering Expo

- Built a full-stack productivity platform from scratch that combines task management, Pomodoro timing, competitive collaboration “rooms,” and XP/streak-based leaderboards.
- Integrated with Google Calendar, Slack, Notion, Todoist, and GitHub.