

Abolfazl Najafi

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Fooladshahr, Isfahan, Iran

Full-Stack & AI Engineer

Full-Stack & AI Engineer with 5+ years of building production software. I develop industrial and educational systems, such as real-time drilling simulators and well-test monitoring platforms, and AI products built on LLMs, RAG and vector databases. I work end to end with Python (FastAPI), React/Next.js, Three.js, Laravel and Flutter, from architecture to deployment.

Social Network

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Education

Bachelor of Computer Engineering

September 2018 - February 2024

Branch: Networking

Institute/University: Shahid Chamran University of Ahvaz

Ahvaz, Khuzestan, Iran

GPA: 13.5/20

Studied algorithms, databases, computer architecture and programming, and completed practical projects in web design, software development and intelligent robots.

Work Experience

Well Drilling MOT Monitoring Platform

Mehr 2026 - Present

Rapna Company

Ahvaz, Khuzestan, Iran

- Architected and developed an industrial monitoring platform (BPCS/HMI) for a mobile well-testing/flowback package with a three-phase separator (choke manifold, desander/desilter, separator, surge tanks, and metering plunger pump skid).
- Designed a Windows desktop host using WPF .NET 8 and WebView2 as the sole client connected to the plant; implemented dual communication with a Siemens S7-1200 PLC via S7comm (port 102) and a separate Ethernet connection for the pump skid.
- Implemented a shared React/TypeScript (Next.js) HMI used across desktop, web (monitoring only), and a Flutter mobile shell; no control commands are sent to equipment from the cloud, web, or mobile.
- Implemented a versioned communication bridge between React and .NET, a connection state machine (reconnection, heartbeat, degraded mode), audit logging before setpoint submission, and an SQLite offline buffer to preserve data and local control during internet outages.
- Built a measurement calculation engine based on a 33-tag workbook (gas-to-oil ratio, Coriolis correction, orifice gas flow rate, surge tank volume, and pump totalizer), alongside FastAPI, PostgreSQL, TimescaleDB, and Redis cloud services for ingestion, live streaming, alarms, and reporting.
- Established OT security and safety boundaries: PLC access is restricted to the desktop, output synchronization uses TLS, access is role-based, and SIS is explicitly separated from BPCS (ESD, H_2S/methane detectors, and level interlocks are monitored and logged only, not treated as a safety layer).

Laravel Full Stack

December 2023 - June 2024

Online

United States of America (USA)

1. Designed and implemented the Bridge2DC website to support students through the process of immigrating to and studying in the United States.
2. Created a user-friendly platform that provides easy access to information about university admissions, application processes, visas, and immigration.
3. Implemented a content management system for publishing articles, guides, and practical advice to support students.
4. Designed a simple, practical user interface focused on students' user experience.
5. Developed interactive features, including consultation request forms and online support, to address users' needs.
6. Project link: bridge2dc.com

Drilling Fluid Online Well Control Simulator

June 2023 - Present

National Iranian Drilling Company Training Department

Ahvaz, Khuzestan, Iran

- Designed and built PureCore, a real-time drilling and well-control simulation engine in Python, modelling the mud system, pumps, fluid flow, well control (kicks and blowout response), torque and drag, rate of penetration, and downhole conditions.
- The engine updates thousands of live parameters, such as standpipe pressure, weight on bit, hook load and pump strokes, and streams them to clients through a FastAPI REST and WebSocket API.
- Built an interactive 3D rig and control-panel interface with React and Three.js, where trainees operate the drilling equipment as they would on a real rig.
- Built a live online classroom where instructors run scenarios and inject problems while trainees watch and respond on the same simulation together.
- Backend runs on PostgreSQL, Redis and Docker; deployed on the Shahid Chamran University server and used in NIDC well-control training.
- Live: wsim.scu.ac.ir · Demo: abolfazlnajafi.com/projects/wsim

Laravel & Nuxt

February 2022 - September 2023

Ilashop

Ahvaz, Khuzestan, Iran

1. Designed and developed the ilashop.net e-commerce website using Laravel for the backend and Nuxt.js for the frontend.
2. Implemented a modular, scalable architecture to simplify the management of products, orders, and users.
3. Fully optimized SEO to improve search engine rankings and attract new customers.
4. Designed a responsive user interface to provide a consistent experience on desktop and mobile devices.
5. Added key features, including order management, a shopping cart, an online payment system, and user profiles.
6. Project link: ilashop.net

Flutter & Laravel Developer

December 2022 - November 2023

Pikpak

LA, CA, United States of America (USA)

1. Designed and implemented an Android application using Flutter to deliver a fast and seamless user experience.
2. Developed the backend with Laravel and designed REST APIs to manage orders, package tracking, and users.
3. Implemented key features, including order placement, package status tracking, real-time notifications, and account management.
4. Designed a simple, user-friendly interface for customers and couriers.

Skills

AI | Backend | Frontend & Mobile | Data and DevOps | Industrial

Language

English

Reading | Writing | Speaking | Listening

Certificates

Agentic AI Engineering

December 2026

Institute: Edureka/Coursera

Link: https://www.coursera.org/account/accomplishments/specialization/ONXZLHUTX20V

Machine Learning in Production

December 2026

Institute: DeepLearning.AI

Link: https://www.coursera.org/account/accomplishments/verify/GIJYVCEAFB3W

Mathematics for ML

December 2026

Institute: Imperial College London

Link: https://www.coursera.org/account/accomplishments/specialization/HRBDH35HR1BN

Pedagogy Certificate

2025

Institute: Technical and Vocational Organization

Link: https://cert.irantvto.ir/certificates/292d8104-b451-41e4-be0c-d0dc8e48a8d2

Projects

Manji App

2025

For: Self-employed

One of the largest collections of Persian audio stories for children and teenagers. With Manji, your children can journey into the captivating world of stories anytime, anywhere.Download link on Bazaar:https://cafebazaar.ir/app/com.avinpishtazan.manji.cafebazaarDownload link on Myket:https://myket.ir/app/com.avinpishtazan.manji.myket

Link: https://manjiapp.ir/

Charity WordPress Website Design

February 2024

The website collects gifts and monetary donations from benefactors to support underprivileged and disadvantaged students in Iran and India.

Link: https://educationendshunger.org/

Teaching

Instructor – "Applications of Artificial Intelligence in Research and Development"

2025

Industrial Management Institute, Khuzestan Branch

Certificate of Appreciation from the Industrial Management Institute, Khuzestan Branch, for holding the course "Applications of Artificial Intelligence in Research and Development" on 17/11/2025, 4 hours, as instructor. Signed by Dr. Zahra Heybatollahpour, Executive Director. Reg. No. 1404/100/21. Official English translation, October 2026.

Instructor – "Artificial Intelligence Deployment within the Organizations"

2025

Masjed Soleyman Oil and Gas Exploitation Company

Certificate of Appreciation from the Masjed Soleyman Oil and Gas Exploitation Company for conducting the 32-hour training courses on "Artificial Intelligence Deployment within the Organizations" in 2025, as instructor (addressed as Professor Abolfazl Najafi). Signed by Rasool Ahmadi, Head of the Training Department; dated 17/10/2026. Official English translation certified by Judiciary translator Mandana Noori Ghale Naseri (License No. 1199), October 2026.

Business Intelligence with Power BI

Esfand 1402 to Bahman 1404

National Iranian Drilling Company

Taught six 30-hour Power BI courses (180 hours total) for the National Iranian Drilling Company (NIDC).

Taught employees key concepts in data analysis, dashboard creation, and data visualization.

Provided practical examples and hands-on projects to strengthen participants' practical skills.

Used interactive teaching methods to enhance learning and improve understanding of the concepts.

Received positive feedback from 90% of participants, demonstrating the effectiveness of the training and high student satisfaction.