

Alireza Fadaei

Software Engineer · Backend Engineer

Python · Node.js · Applied AI · Cybersecurity

Based in Oulu, Finland · Open to on-site, hybrid & remote opportunities

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PROFESSIONAL SUMMARY

Software and backend engineer based in Oulu, Finland, with experience building APIs, SaaS platforms, security software, research-data systems, and infrastructure using Python and Node.js. My background also includes applied AI, cybersecurity, federated learning, and peer-reviewed research.

CORE SKILLS

Backend Engineering	Python · Node.js · Django · Flask · FastAPI · REST APIs · Celery
Databases & Infrastructure	PostgreSQL · Redis · Neo4j · Docker · Nginx · Linux
Applied AI & Machine Learning	TensorFlow · Scikit-learn · Pandas · NumPy · Federated Learning · CNNs
Security & Distributed Systems	Vulnerability Management · Intrusion Detection · AI Security · IoT Security
Engineering Practices	Git · Code Review · Technical Documentation · Agile Development · API Design
Additional Technologies: VMware · React · Modern JavaScript	

PROFESSIONAL EXPERIENCE

2026	Software Engineer · Aminyx (Remote) Built agentic AI features for automated sourcing, multi-layered trust-scoring systems, and secure infrastructure for B2B smart contracts and international trade workflows, contributing to a modular AI-powered SaaS platform for global trade.
2022–2024	Software Developer · Fardaad (ISTT) Built backend functionality for vulnerability and patch-management tools developed for municipal and government network environments. Improved backend algorithms supporting patch deployment workflows and collaborated through Git-based development and cross-functional review.
2021–2022	Backend Developer & Server Administrator · BrassicaLNC Built the backend and administered a research-data platform organising data from 2,361 publicly available RNA-Seq libraries.
2021–2022	Backend Developer & Server Administrator · MetaMenu Developed backend features and administered infrastructure for a cloud-based restaurant platform spanning interactive AR menus, ordering, delivery, and accounting workflows within an agile startup team.
2021–2022	Backend Developer · Piranest Team Developed marketplace backend functionality connecting travellers with local guides and supporting tour reservations.
2020	Flask Developer · Fapsco Project Developed and maintained Flask website features and internal tools for client-facing services and business workflows.

ADDITIONAL EXPERIENCE

2024–2026	Programming Instructor · Iran TVTO Delivered hands-on, industry-aligned programming and software-development training in official vocational programmes.
2024–2026	Chair, Computer Department · Kabir Technical and Vocational School Led the department team and developed curricula in programming, network security, and machine learning.

SELECTED PROJECTS

CNC Process Management System Independently designed, built, and deployed the complete system from scratch for process tracking, inventory visibility, and workstation monitoring.
Psychological Clinic CRM Designed and built an end-to-end CRM and operational management system for a psychological clinic, covering appointments, patient records, therapist scheduling, sessions, billing, business workflows, and deployment.
BrassicaLNC Research Database Built the database and backend, administered the server, and organised data from 2,361 publicly available RNA-Seq libraries.
Federated Web Attack Detection Implemented a lightweight 1D-CNN with Flower for distributed intrusion detection; evaluated under IID and non-IID data distributions.
ADS-B Aircraft Observation Station Designed and implemented a system to capture, process, and present real-time aircraft data; received the Best B.Sc. Thesis Award.

EDUCATION

2026–Present	M.Sc. Software Engineering and Information Systems University of Oulu · Oulu, Finland Building on my previous M.Sc. in Software Engineering, the programme extends my expertise in advanced software engineering, software quality, AI-enabled systems, and human-centred information systems.
2022–2025	M.Sc. Software Engineering Islamic Azad University, Najafabad Branch · Top student Thesis: An Optimized Federated Deep Learning Approach for Intrusion Detection in Dew Computing Environments
2017–2022	B.Sc. Computer Engineering University of Isfahan · Best B.Sc. Thesis Award Thesis: Design and Implementation of an ADS-B-Based Aircraft Observation System

RESEARCH / PUBLICATION

2026	A Novel Intrusion Detection System for Dew Computing Environments Based on an Enhanced Federated Deep Learning Model Alireza Fadaei, Behrang Barekatain · <i>The Journal of Supercomputing</i> , 2026 · Published February 16, 2026 · DOI: 10.1007/s11227-026-08314-x
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LANGUAGES

English: Professional working proficiency · IELTS Academic: Overall 7.5, March 2025