

KAWAN FARHADIBANEH



Blockchain & Smart-Contract Engineer · Compiler / DSL Researcher

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Tehran, Iran · Remote (worldwide)

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PROFESSIONAL SUMMARY

Blockchain and smart-contract engineer grounded in formal program analysis (compiler / DSL research) and three years shipping hands-on work across Solidity, trust-management design, and backend services. M.Sc. thesis built a blockchain-based IoT data marketplace that put proxy re-encryption and on-chain access control into a working prototype. Currently a Ph.D. candidate at IUST designing a polyglot framework for engineering domain-specific languages — a skill set that maps naturally onto shipping audit-ready Solidity, designing secure on-chain protocols, and reasoning about code at the type-system level. Available full-time / part-time / contract; remote; overlap with European and US time zones.

CORE SKILLS

Smart Contracts & Web3

Solidity · Ethereum / EVM · ERC-20 / ERC-721 standards · smart-contract lifecycle · proxy re-encryption · trust management · DeFi patterns · gas optimisation · Foundry / Hardhat / Truffle awareness · ethers.js / web3.js · contract testing and code review

Languages

Solidity · PHP · Python · Java · C · JavaScript (working)

Backend & Web

Laravel · RESTful APIs · MySQL · schema design

Compiler / Language Engineering

ANTLR4 · DSL design · lexer/parser/grammar construction · decompiler development · reverse engineering · C and JVM bytecode

Mobile / Systems

Android (Gradle, MVVM) · Arduino · C embedded

AI / ML

Python-based ML application development · LLM tooling awareness

EDUCATION

Ph.D.

Computer Engineering (Software and Algorithms)**

Iran University of Science and Technology · 2023 – present

Thesis: *A Polyglot Intelligent Framework for Developing Domain-Specific Languages*

Advisor focus: language engineering, parser generation, AST tooling.

M.Sc.

Computer Engineering (Software)**

University of Tabriz · 2021 – 2023

Thesis: **A Novel Approach for Implementing an IoT Data Marketplace Based on Blockchain and Proxy Re-Encryption.**

Core subjects: distributed systems, cryptography, formal methods, advanced software engineering.

B.Sc.

Computer Engineering**

Urmia University · 2017 – 2021

Project: topic-oriented social network.

PUBLICATIONS & RESEARCH

- **M.Sc. thesis:** IoT data marketplace using blockchain + proxy re-encryption for verifiable access management and trust in blockchain networks.

- **Ph.D. research line:** polyglot intelligent framework for engineering DSLs — currently translating toward publishable work on language tooling and compiler construction.

PROFESSIONAL EXPERIENCE

SELECTED PROJECTS

IoT Data Marketplace (M.Sc. thesis, 2022–2023)

End-to-end blockchain system for trading IoT sensor data with privacy guarantees. Used proxy re-encryption so data buyers can decrypt without the seller staying online. On-chain component enforced access rules and logged immutable audit trails against tampering.

Topic-Oriented Social Network (B.Sc. project, 2020–2021)

Full-stack topic-driven social platform; PHP/Laravel backend, MySQL, Android client.

Polyglot DSL Framework (Ph.D., ongoing)

Reference implementation of a framework that lets domain experts specify a DSL and get grammar + parser + tooling generated, with multiple target languages. Built around ANTLR4 with custom grammar composition.

Decompiler / Reverse-Engineering Tooling (Arad Holding, 2025–)

In-house tooling that lifts compiled control-system binaries back toward

readable code, with semantic checks for unsafe control flow.

LANGUAGES

- Kurdish — native
- Persian — professional
- English — professional (Duolingo English Test: 130)

AVAILABILITY

- Full-time, part-time, or contract.
- 100% remote; based in Tehran (IRDT, UTC+3:30).
- Open to European-time overlap and async-first workflows.
- Open to contracting via Estonia e-Residency entity if needed for payment and onboarding.
- Can receive USDC / USDT; familiar with crypto rails.

REFERENCES

Available on request.

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