ABOLFAZL SAADAT / NEMO

Software Architect · AI Systems Engineer · Computational Biotechnology Researcher

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Portfolio: AbolfazlSaadat.ir · Research & engineering: Nemolabs.cloud

> Software engineer and computational biotechnology practitioner building research-oriented AI tools and production-minded business systems. Work spans scientific computing, LLM agents, local-first enterprise applications, multi-tenant web platforms and interactive 3D interfaces. Approach: deterministic workflows and sound data design first; AI only where it adds measurable value.

CORE EXPERTISE

Languages & frameworks: Python, Rust, TypeScript, JavaScript, SQL; FastAPI, Node.js, React, Tauri, Docker.
AI & computational biology: PyTorch/PyG, GNNs, reinforcement learning, RDKit, SELFIES, AutoDock Vina, Biopython; NumPy, SciPy, scientific statistics.
Systems: PostgreSQL, SQLite, Redis, API architecture, role-based access control, local-first applications, multi-tenant design, license management.
AI agents & visualization: MCP, tool/function calling, retrieval-augmented workflows, human-in-the-loop design; Three.js, WebGL, 3Dmol.js.

SELECTED ENGINEERING EXPERIENCE

Founder & Technical Lead — Senpai Road (SR)

AI services · software delivery · architecture · client projects

Lead client discovery, scope definition, architecture, implementation and delivery of AI-enabled software and web systems; translate operational requirements into deployable products and maintainable workflows.

Lead Developer — ZarNegar | Precious-Metals Workshop ERP

Rust / Tauri · Python / FastAPI · SQLite · accounting · RBAC

Designed a workshop ERP covering production flows, dual monetary/weight ledgers, inventory, invoicing, access control, offline desktop deployment and licensing considerations. Ongoing work includes modular manufacturing workflows, local and server deployment options and release readiness.

Platform Architect — Shahkar | Art Marketplace & Accounting

E-commerce · back-office · billing · customer workflow

Worked on customer and administration interfaces for art sales, an online artwork editor concept, promotional campaigns, invoice templates, inventory and accounting modules, Jalali-calendar workflows and point-of-sale integration planning.

AI / Systems Architect — Dadport | Legal-Tech Platform

Multi-tenant design · document retrieval · security · auditability

Designed platform requirements around client-isolated legal cases, subscription access, source-grounded retrieval over large document collections, citation auditing, permissions and secure internal communication.

RESEARCH & SCIENTIFIC COMPUTING

NeuroMol — AI-Assisted De Novo Molecular Design

PyTorch Geometric · GATv2 / MPNN · PPO · RDKit · SELFIES · FastAPI

Developed an architecture for molecular graph representation, generative exploration and multi-objective candidate prioritization focused on neurodegenerative disease targets including BACE1 and GSK3β. Integrated molecular property evaluation and 3D inspection workflows. Research software; not a clinically validated drug-discovery outcome.

OmniBioStat / BioStats Pro — Web-Based Biostatistics

Statistical testing · dose-response · ROC · survival analysis · scientific documentation

Worked on a web-based statistical analysis platform and accompanying methodological documentation spanning foundational inference, nonlinear dose-response modeling, ROC analysis, survival statistics and validation planning. Research manuscript preparation is ongoing; no publication acceptance is claimed.

NEMO Pharma Lab / CortexLink — Bioinformatics & BCI Concepts

3D molecular visualization · screening workflows · EEG processing

Built and specified computational interfaces for molecular exploration, drug library navigation and EEG-oriented pipelines combining filtering, spectral analysis and model-driven classification.

ADDITIONAL PROJECTS

WhatsApp AI Agent & CRM Architecture

Specified customer-facing and internal agents integrated with business data, sales pipelines, admin oversight, archive/search and extensible provider connections; developed local and VPS-oriented deployment plans.

Nikan Khodro — Automotive Commerce Website

Built requirements and delivery workflows for a responsive vehicle showcase with lead-capture forms, sales contact routing, QR assets and production deployment considerations.

Industrial Flue-Gas Digital Twin · Chaos Lab · AGENT//LAB

Prototyped interactive process simulations, nonlinear numerical visualizations and tool-using AI agents. Areas covered include chemical-process models, ODE integration, GPU visualization, persistent context and operator escalation.

EDUCATION & RESEARCH DIRECTIONS

Biotechnology studies — in progress. Interdisciplinary focus: computational drug discovery, structural bioinformatics, biostatistics, neuro-computational models and dependable scientific software. Institution, degree designation and expected graduation date available for confirmation.

TRANSLATION & LITERARY WORK

All Tomorrows — Persian translator · C. M. Kosemen

Translation, translator's preface and cover design; Parlaq Qalam. 126-page PDF edition. Speculative evolution and posthuman science fiction.

LANGUAGES

Azerbaijani Turkish (native); Persian (fluent); English (professional/academic). Japanese and Arabic: familiarity with technical materials; proficiency levels to be confirmed.

Updated October 2026 · Project descriptions reflect development and architecture work; quantitative performance claims omitted unless independently substantiated.