

Behnam Aghajani

Software Developer · Backend & AI

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- <https://www.youtube.com/uncox-group>
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- <https://t.me/uncox>
- <https://www.aparat.com/uncox>
- <https://www.reddit.com/user/uncocoder/>

Professional Summary

Software developer working since 2005, focused on backend systems, AI tools, and native and cross-platform applications. Project-based experience with international clients from 2018 to 2026, covering software design, implementation, testing, packaging, and maintenance. Designer of a programming language and development environment, technical director of the game Mir Mahna, and programming instructor experienced in training technical and art teams and building and operating the uncox.com learning platform.

Selected Achievements

- Approximately 3,000 hours developing a new product:** Designed a programming language and integrated development environment for rapid, AI-assisted native and cross-platform app development; currently in early testing.
- Led Mir Mahna from development to delivery:** Approximately 30 months of development as the team grew from 3 people to 13 full-time staff and around 20 part-time and project-based contributors.
- Four awards for the Mir Mahna team:** Three gold statuettes and one silver statuette at the Fourth Digital Media Festival.
- Taught tens of thousands of learners through uncox.com:** Specialized technical subjects, programming, and game development.

Professional Experience

Period / Effort	Role and Focus
2018–2026	Backend, server, and AI development for international clients
Approximately 3,000 hours	Personal project: programming language and cross-platform development environment
Started Mar/Apr 2015	Developer, instructor, and owner of uncox.com
Nov/Dec 2012 – Mar/Apr 2015	Independent mobile developer; teaching at Android House
Jul/Aug 2011 – Nov/Dec 2012	Mobile Developer, Idehgaran Tose'e Pishro
Sep/Oct 2008 – Jul/Aug 2011	Technical Director and Programming Lead, Espris Pouyanama
Oct/Nov 2007 – Sep/Oct 2008	Programmer and Designer, Rasana Afzar Sharif
Mar/Apr 2005 – Oct/Nov 2007	Programmer, NAJA Provost Headquarters; military service

Education

B.Sc. in Statistics — Islamic Azad University, Central Tehran Branch

Dates are converted from the Persian calendar. Paired months indicate the Gregorian span of a Persian month; year-only dates are approximate.

Backend, Server & AI Development

Project-Based Work for International Clients

2018–2026

Developed server-side software and AI-based solutions for several clients outside Iran, using a range of backend, server, and AI technologies.

AI Agents & Developer Tools

Continuously explored and applied local and hosted models since the emergence of AI agent systems, developing tools and workflows for their use in software development.

- Connected models to practical tools and development environments through MCP and tool calling.
- Designed agent workflows, managed context, and handled streaming model responses.
- Ran language models locally and generated structured output for software tools.

Personal Project: A New Programming Language & IDE

Approximately 3,000 hours of product design and development

Designed and developed a new programming language and integrated development environment for rapidly building native applications across platforms, incorporating AI into the development process.

Area	Description
Language and IDE	Designed a programming language and integrated development environment, including code analysis and transformation, an editor, and application previews
Cross-platform development	Built native applications for multiple platforms through a unified development workflow
AI integration	Applied AI to accelerate application development
Product status	In early testing; a beta release is planned

Technical Skills & Capabilities

AI & Development Tools

Area	Technologies and Practical Experience
AI agents and tools	MCP server development with Node.js; tool definitions using JSON Schema and JSON-RPC; model tool calling and IDE integration; context and workflow management for local and hosted models
Language and runtime design	Programming language and DSL design, graph analysis, parsers, transpilers, and code generation; shared runtime development and output generation for native and cross-platform applications
IDEs and code editors	Monaco Editor; custom language support, code completion, graph editing, application previews, and integration of AI tools into development workflows
Local LLM inference	llama.cpp, Qwen models, and GGUF; local model execution, quantized models, and grammar-constrained output for structured commands
Speech and audio processing	whisper.cpp, AVFoundation, and VAD; Persian and English speech-to-text, voice activity detection, input audio processing, and voice commands for desktop automation

Web, Backend & Databases

Area	Technologies and Practical Experience
Backend and service architecture	PHP and REST APIs; multi-tenant SaaS, MVC architecture with Controller and Repository layers, job queues, and background processing; learning portals, Q&A systems, and idempotent operations
Databases and schema evolution	SQL, MySQL, MariaDB, SQLite, and PDO; data modeling, parameterized queries, transactions, versioned database migrations, and concurrency control for migrations
Web interfaces and dashboards	TypeScript, JavaScript, Svelte, SvelteKit, React, and Vite; component-based interfaces, state management, and interactive forms using HTML, CSS, and SASS; responsive and right-to-left layouts
Real-time communication and streaming	WebSocket and OpenSwoole; interactive client-server communication, streaming language model responses, and processing tool calls within conversations

Native Development, Infrastructure & Security

Native & Cross-Platform Applications

Area	Technologies and Practical Experience
Desktop tools	Go, Rust, Wails, and Tauri; development environments and digital content players; web-to-native integration, file management, and background processes
Apple platforms	Swift, SwiftUI, AppKit, UIKit, and Swift Package Manager; macOS applications, native iOS interfaces, and shared libraries for settings, UI components, and application services
Android and shared logic	Kotlin, Java, Android, Kotlin Multiplatform, and Kotlin/Native; mobile development and shared runtimes across Android and iOS; Android instruction and Wear OS prototypes with Jetpack Compose
Automation and system input	macOS Accessibility API, AXUIElement, CoreGraphics, and GameController; window and UI element control, mouse and keyboard input processing, and mapping controller inputs to system commands

Infrastructure, Security & Software Quality

Area	Technologies and Practical Experience
Servers and containers	Docker, Docker Compose, Linux, NGINX, PHP-FPM, and MariaDB; LEMP environment setup, security configuration, service support and maintenance; Apache and CentOS administration experience
Builds and releases	Git, Shell, and build scripts; automated versioning, cross-compilation, and packaging for macOS, Windows, and Linux; NSIS installers, DEB packages, and release file integrity checks
Testing and quality assurance	XCTest, Go testing, Cargo Test, Node Test Runner, and PHP tests; unit, integration, contract, and regression testing; cross-platform behavior consistency checks
Applied security and cryptography	AES-GCM and Ed25519; authenticated encryption, digital signatures, access control, license management, device-bound key delivery, and in-memory decryption of authorized content

Media & Service Integration

Area	Technologies and Practical Experience
Digital content playback and distribution	Go and Rust; file format design, byte-range playback, download and cache management, encrypted content processing, and user-identifying watermarks
Purchases and entitlements	StoreKit 2, In-App Purchase, and entitlements; product information retrieval, purchase flow integration, transaction monitoring, and access management for app features
API integration and web analytics	OAuth 2.0 and Google Search Console API; account linking, access token refresh, search performance analysis, and page indexing checks in a custom dashboard

Graphics, Games & Additional Skills

Games, Real-Time Graphics & Tool Development

Area	Technologies and Practical Experience
Shaders and GPU rendering	Metal, MetalKit, Metal Shading Language, wgpu, and WGSL; real-time effects and rendering pipelines; HLSL, GLSL, PSSM, and deferred shading experience on Mir Mahna
Game engines and algorithms	C, C++, Rust, Lua, Visual C++, Torque, and TorqueScript; engine and UI programming, mathematical algorithms, graphics processing, and embedding scripting environments in game engines
3D content production	3ds Max, MAXScript, and MotionBuilder; tools and automation for model, texture, and animation production
Prototyping and game tools	C#, XNA, and .NET Framework; two physics-based game prototypes; experience with Unreal Engine, Unity, and Substance products

Other Technologies & Technical Experience

Area	Technologies and Practical Experience
Scripting and computation	Python, MATLAB Script, and Windows Batch; scripting and computational work
Team management and training	Jira, Confluence, Stash, and Scrum; technical management, training programming and 3D content teams, and sharing software and game production expertise
Content management systems	Drupal, WordPress, and Joomla; development and administration of CMS-based websites
Additional web technologies	jQuery, Ajax, JSON, LESS, Handlebars, AngularJS, and Polymer
Enterprise software	Delphi, Pascal, Access, and FoxPro; four database projects for NAJA Provost Headquarters
Electronics and microcontrollers	ASM, BASCOM, CodeVisionAVR, x86 architecture, MCUs, Protel, Proteus, and Multisim; circuit design, board fabrication, and project completion
Design and documentation	Illustrator, Photoshop, Markdown, Word, Excel, Access, PowerPoint, Visio, SharePoint, and Flash Builder

Programming Instruction & Learning Platforms

uncox.com — Developer, Instructor & Owner

Started Mar/Apr 2015

- Designed and developed the website from scratch, including its learning portal and interactive Q&A service.
- Built services for online learning; administered a dedicated server, configured security, and supported and maintained the infrastructure.
- Designed practical, employment-focused courses in which learners begin building useful applications during their first hours of study.
- Enabled peer-to-peer Q&A, with instructors supplementing learners' responses.
- Built services that let instructors monitor learning progress and adjust the teaching path.
- Founded Fuzhan Resaneh Ideh Hooshmand and operated as a digital publisher.

Teaching Areas

Area	Subjects
Mobile programming	Android application development using Android and Java
Game development	Games for Android and Windows; practical game production and graphics programming
Web and infrastructure	Programming, administration, and maintenance of web-based software

Android House

Managed and taught at Android House, starting in Nov/Dec 2012. Developed the learning website and Q&A system, produced Android programming courses, and taught more than **2,000 learners**.

Applied practical Android and Java mobile development experience, gained at Idehgaran Tose'e Pishro and through independent work, to Android programming instruction and the development of uncox.com learning services.

University Teaching & Technical Talks

Delivered three technical presentations at Iranian game developer gatherings, taught game development at universities in Tehran, and evaluated and reviewed Iranian games.

Teaching a Technical Game Development Course

Iran University of Science and Technology · Apr/May 2011

Taught in the first technical game development course at the School of Computer Engineering, helping students strengthen their technical skills and learn from game production experience. Received a university certificate of appreciation.



Certificate of appreciation for teaching game development at Iran University of Science and Technology

Speaking at the Iranian Game Developers Gathering

Iran University of Science and Technology · 22–24 November 2010

Delivered a technical talk at the first Iranian game developers gathering and received a certificate of appreciation from the Iran Computer and Video Games Foundation.



Certificate of appreciation for speaking at the first Iranian game developers gathering

Computer Game Graphics Processing Workshop

Fourth International Digital Media Exhibition · Sep/Oct 2010

Presented a workshop on graphics processing in computer games and received a certificate of appreciation from the Information Technology and Digital Media Development Center of the Ministry of Culture and Islamic Guidance.



Certificate of appreciation for the computer game graphics processing workshop

Mir Mahna — Technical Direction & Programming Leadership

Espris Pouyanama · Sep/Oct 2008 – Jul/Aug 2011

Served as technical director, programming lead, engine and graphics programmer, UI programmer, and visual effects designer for Mir Mahna. Development began in Sep/Oct 2008 with a three-person team and reached product delivery after approximately 30 months.

Responsibilities & Achievements

- Led technical development as the team grew to **13 full-time staff** and approximately **20 part-time and project-based contributors**.
- Trained an **eight-person modeling, texturing, and animation team** and a **three-person programming team**.
- Wrote approximately **6,000 lines of custom C and C++ code** for the Torque engine and **25,000 lines of TorqueScript**.
- Created approximately **five MAXScript automation tools** for preparing game assets in 3ds Max.
- Developed approximately **10 custom shaders** and rendering algorithms, including PSSM and deferred shading, using HLSL and GLSL.
- Designed and implemented the UI and visual effects; participated as a motion capture performer.



Urban environment in Mir Mahna

Team achievement: Three gold statuettes and one silver statuette at the Fourth Digital Media Festival.

Mir Mahna — Game Environments & User Interface



Gameplay and user interface in Mir Mahna



Natural environment and gameplay in Mir Mahna

Mir Mahna — Production Team



Mir Mahna production team

Age of Pahlevans — UI & Visual Effects

Rasana Afzar Sharif · Oct/Nov 2007 – Sep/Oct 2008

Worked on the mythological game Age of Pahlevans as a graphical user interface programmer and visual effects designer and programmer, using the Torque engine. This marked the start of a professional career in game development; the experience later informed the development of Mir Mahna.

- Designed and implemented the game's user interface.
- Designed, implemented, and programmed visual effects.
- Collaborated with the production team to deliver the finished game.



Interior environment and user interface in Age of Pahlevans



Visual effects in an Age of Pahlevans game environment



Character and environment in Age of Pahlevans



Combat scene in Age of Pahlevans

Age of Pahlevans — Poster & Fire Effects



Age of Pahlevans game poster

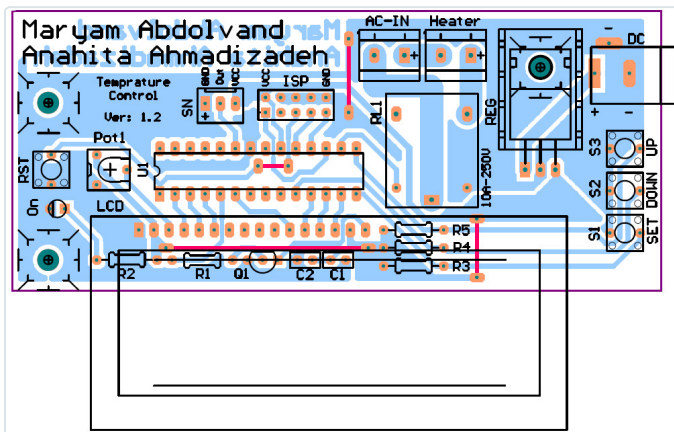


Fire effects in Age of Pahlevans

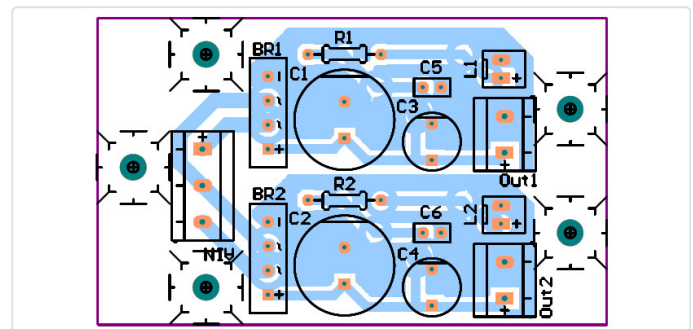
Electronics, Automation & Application Software

Electronics & Microcontroller Projects

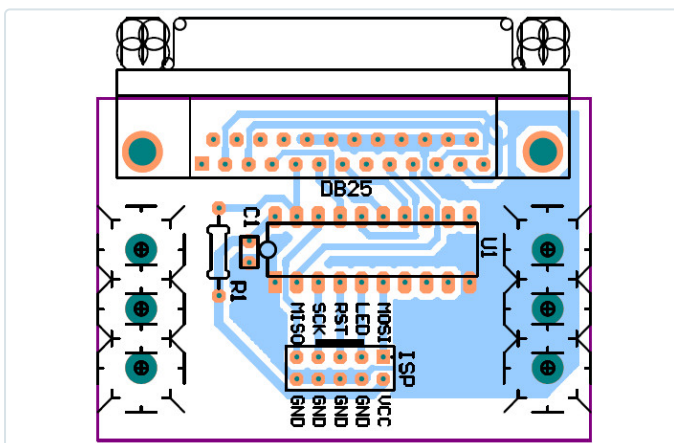
Completed electronics, robotics, and student projects using microcontrollers, ASM, and supporting tools, from design through board fabrication and final delivery. Tools included BASCOM, CodeVisionAVR, Protel, Proteus, and Multisim, with work involving MCUs and x86 architecture.



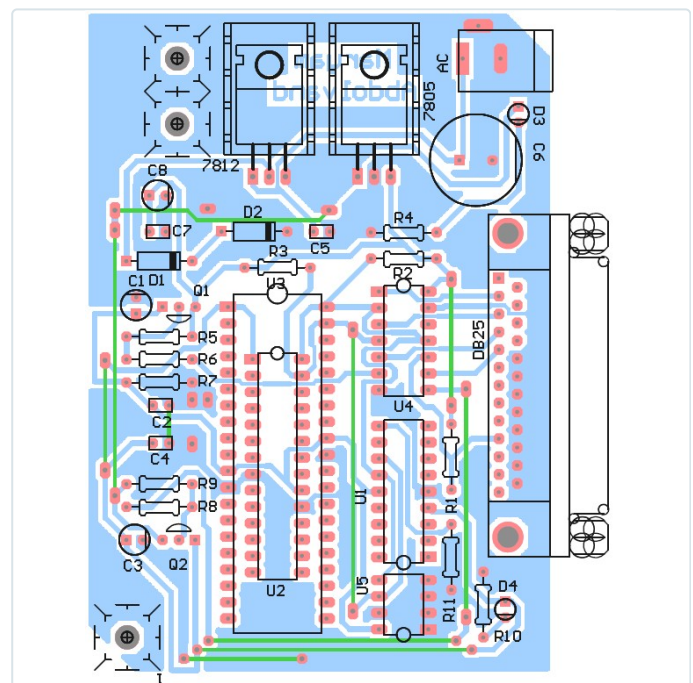
Sample board from electronics and student projects



Sample electronic circuit board design



Board interface and connection layout: third example



Programmer board design

Enterprise Software — NAJA Provost Headquarters

Mar/Apr 2005 – Oct/Nov 2007 · Military service

Delivered **four database projects** using Delphi and Pascal to automate headquarters operations.

Physics-Based Game Prototypes

Developed **two game prototypes** using C# and XNA on the .NET Framework.

Honors & Awards

Fourth Digital Media Festival — Mir Mahna

The Mir Mahna production team received four statuettes. Served as the project's technical director and programming lead.

Award	Category
Gold statuette	Best Game of the Year
Gold statuette	First Place — Concept
Gold statuette	First Place — Art
Silver statuette	Second Place — Technical Achievement



The four Mir Mahna award statuettes

Mir Mahna — Recognition at the Launch Ceremony

Received a certificate of appreciation at the Mir Mahna launch ceremony, attended by Seyyed Mohammad Hosseini, then Minister of Culture and Islamic Guidance, and the then CEO of the Iran Computer and Video Games Foundation.



Receiving a certificate of appreciation at the Mir Mahna launch ceremony