Ali Asadpoor

- Email: info@ali-asadpoor.com
- Website: www.ali-asadpoor.com

Version: 5.0.0

Skills

- Domains: Backend, Frontend, Embedded, IaC
- Programming Languages: Modern C++, SQL, C, Java, Python
- Technologies: Networking, Multithreading, IPC, Asynchronous Programming, OpenGL, WASM
- Embedded: RTOS, Video, Sound, Bluetooth, Camera, SPI, I2C, I2S, UART, GPIO
- GUI: GTK, WebKit, Qt, SDL, HTML, CSS, JS
- Platforms: Linux, Windows, macOS, iOS, Android, Web, Microcontrollers
- DevOps: Bash, Git, CMake, Docker, Kubernetes, Terraform
- Electronics: Proteus, CodeVision, ATmega

Experience

- **Comcast** - Senior Software Engineer - Feb 2026 to Present - Reston, VA
  - Develop C++ backend services for FreeWheel Marketplace
- **ApertureData** - Senior Software Engineer - Jan 2023 to Feb 2026 - San Francisco, CA
  - Implemented a muxer and encoder in C++ with FFmpeg
  - Implemented a full-duplex TCP/HTTP load balancer in C++
  - Implemented a SaaS platform using Terraform
- **Amazon** - Software Development Engineer II - Mar 2021 to Dec 2022 - Arlington, VA
  - Added time-zone support to Prime Video events using Scala
  - Added scrolling and RTL support to an Amazon Echo text field in C++
  - Decoupled gRPC from Protobuf in Amazon Neptune using C++
- **QOMPLX, Inc.** - Windows Software Engineer - Mar 2020 to Mar 2021 - Reston, VA
  - Implemented client-server Windows services in C++ using Asio, OpenSSL, and STL
- **MayStreet, Inc.** - Software Engineer - Oct 2019 to Feb 2020 - New York, NY
  - Implemented a specialized LCS algorithm in C++ to compare market data
  - Implemented a WSS client in C++ using Asio, Beast, and OpenSSL
- **Kitestring** - Software Development Consultant - Feb 2019 to May 2019 - Bentonville, AR
  C/C++, 4690 OS, IBM build toolchain
  - Fixed tax calculations for Walmart hypermarkets in Honduras
  - Improved modularity and naming conventions
- **Birch Grove** - Software Engineer - May 2017 to Feb 2019 - Dallas, TX
  DevOps
  - Managed configurations to automate customer-specific builds
  - Designed APIs for HTTP communication

  Windows Agent, C++, Visual Studio, production builds and deployment
  - Implemented video recording using Windows Media Foundation
  - Synchronized threads and improved access to critical sections

  macOS Agent, C++ and Objective-C, Xcode, production builds and deployment
  - Implemented .pkg signing on Linux
  - Improved asynchronous job-queue operations

  Chrome Agent, JavaScript, Visual Studio, production builds and deployment
- **Ott Computer** - Software Engineer - Jan 2016 to Apr 2016 - Guayaquil, Ecuador
  - Designed a UML model for a software template

- **Veridg** - Software Engineer - May 2013 to Aug 2014 - Tehran, Iran
  Indicator project-management app, C++, SQL, Windows, Microsoft SQL Server
  - Developed a cache that reduced traffic while keeping data up to date
  - Built a graph-based UI and improved its force-directed layout algorithm
  - Loaded database schemas at runtime, enabling changes without modifying or recompiling C++ code
- **AsrGuyeshPardaz** - Software Engineer - Feb 2012 to Apr 2013 - Tehran, Iran
  Persian text-to-speech system
  - Developed a tool that generated a minimal word set covering Persian syllable patterns
  - Implemented text-to-speech support for Persian dates
- **JTMA** - Software Engineer - Feb 2006 to Oct 2009 - Tehran, Iran
  Networked correspondence-management application
  - Evolved the architecture from file sharing to sockets and Microsoft SQL Server
- **Teta Pishro** - Software Engineer - Oct 2002 to Oct 2003 - Tehran, Iran
  Persian OCR, C++, Windows
  - Designed a graph- and tree-based algorithm to recognize Persian characters

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Personal Projects

- **Werewolves** [Node.js] Werewolves game with AI-powered bots and multiplayer support Werewolves
- **Thinkora** [C++] Whiteboard app with built-in OCR and collaboration support
- **Key-Pal** [C++, Embedded] End-to-end access-control system
- **http-server** [C++, Asio, Beast, WASM] HTTP server for C++ back-end and front-end development
  Renders C++ widget classes on the server or client
- **jsonio** [C++] Open-source library for parsing and editing JSON github.com/virtualmatador/jsonio
- **Cross** [C++, Java, Swift, HTML, CSS, JS, GTK, Webkit, Soundio]
  SDK for creating cross-platform GUI applications from a single codebase
  Available targets: iOS, Android, Linux, Windows, Mac, and Web
- **Checkers** [C++, HTML, CSS, JS] Checkers board game
  Available for multiple platforms using my **Cross** library www.shaidin.com/checkers
- **Life** [C++, SDL2, OpenGL4] Conway's Game of Life www.shaidin.com/life
- **Depth** [C++, libpng] Generates autostereograms from depth maps www.shaidin.com/depth
- **Digital Clock** [C, AVR ATmega32] Digital clock with Persian calendar, alarm, timer, and stopwatch
- **Input** [C++] Detect gestures using Kinect and generate keyboard events to play any game
- **ABO Game** [C++, OpenGL2] A game to practice blood types

Awards

- Placed 18th in Iran's National Physics Olympiad, 2000
- Ranked 2nd on the entrance exam for Azadegan selective public high school - Maragheh, Iran, 1998
- Ranked 7th on the entrance exam for Allame Amini selective public middle school - Bonab, Iran, 1995

Education

- 2017 - Computer Science coursework - Richland College - Dallas, TX
- 2002 - Pre-University - Mathematics and Physics - Saadi selective public high school - Tabriz, Iran
- 2001 - High School - Mathematics and Physics - Azadegan selective public high school - Maragheh, Iran

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Work Style

- Use the best practices
- Start with research
- Discover hidden patterns
- Take calculated risks
- Make it happen
- Keep it simple

Interests

- Algorithms
- Optimization
- AI
- Robotics
- Cognition

Languages

- Azerbaijani (Mother tongue)
- Persian (Native)
- English (Fluent)