Ali Asadpoor

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Version: 3.4.0

Skills

- Software Stack: Backend (10 years), Frontend (7 years), Embedded (5 years), IaC (3 years)
- Programming Languages: Modern C++ (20 years), SQL (10 years), C (6 years), Java (5 years), Python (4 years)
- Technologies: Networking, Multi-Thread, IPC, Asynchronous, 3D, WASM
- Embedded: RTOS, Video, Sound, Bluetooth, Camera, SPI, I2C, I2S, UART, GPIO
- GUI: GTK, WebKit, Qt, SDL, HTML, CSS, JS
- Platforms: Linux, Windows, Mac, iOS, Android, Web, Microcontroller
- DevOps: bash, git, cmake, docker, kubernetes, terraform, SaaS
- Electronics: Proteus, CodeVision, ATmega

Experience

- Senior Software Engineer - ApertureData - 01/02/2023 to Present - San Francisco, CA
    - Backend, C++ - Implement muxer and encoder with FFMPEG
    - Backend, C++ - Implement TCP/HTTP full-duplex load-balancer
    - IaC, Terraform - Implement SaaS platform
- Software Development Engineer II - Amazon - 03/30/2021 to 12/23/2022 - Arlington, VA
    - PrimeVideo, Scala - Add timezone support to events
    - Amazon Echo Embedded System, C++ - Add scroll and RTL support to edit-box
    - Neptune Graph Database, C++ - Decouple GRPC from protobuf
- MS Windows Software Engineer - QOMPLX, Inc. - 03/02/2020 to 03/30/2021 - Reston, VA
    - Implement server-client windows services in C++ using ASIO, OpenSSL, STL
- Software Engineer - MayStreet, Inc. - 10/07/2019 to 02/29/2020 - New York, NY
    - Implement specialized LCS algorithm in C++ to compare market data
    - Implement WSS client in C++ using ASIO, Beast, OpenSSL
- Software Development Consultant - Kitestring - 02/25/2019 to 05/30/2019 - Bentonville, AR
  C/C++, 4690 OS, IBM build tool chain
    - Fix tax calculation for Walmart hypermarkets in Honduras
    - Improve modularity and naming convention
- Software Engineer - Birch Grove - 05/22/2017 to 02/22/2019 - Dallas, TX
  DevOps
    - Manage configuration to automate the build process for different customers
    - Design APIs for http communication
  Windows Agent, C++, Visual Studio, Build and Deploy to production
    - Implement video recording using Windows Media Foundation
    - Synchronize threads and improve access to critical sections
  Mac Agent, C++ and ObjectiveC, Xcode, Build and Deploy to production
    - Implement .pkg signing in Linux (Undocumented)
    - Improve async operations in job queues
  Chrome Agent, JavaScript, Visual Studio, Build and deploy to production
- Software Engineer - Ott Computer - 01/02/2016 to 04/05/2016 - Guayaquil, Ecuador
  Design UML model for software template
- Software Engineer - Veridg - 05/01/2013 to 08/30/2014 - Tehran, Iran
  Create Indicator app for project management, C++, SQL, Windows, MSSqlServer
    - Advanced cache to minimize traffic and guarantee having up to date information
    - UI based on graph, implement and improve Force-Directed algorithm
    - Fetch DB structure at runtime (Adding columns, tables, and foreign-keys without changing the C++ code or

recompiling it)
- Software Engineer - AsrGuyeshPardaz - 02/10/2012 to 04/30/2013 - Tehran, Iran
  Persian text to speech
    - Create a word processor to cover all possible syllables in Persian language with minimum length
    - Implement TTS for Persian date format
- Software Engineer - JTMA - 02/01/2006 to 10/15/2009 - Tehran, Iran
  Create a letter management app with network support
    - Version 1 using file sharing, Version 2 using sockets, version 3 using SQL-Server
- Software Engineer - Teta Pishro - 10/12/2002 to 10/12/2003 - Tehran, Iran
  Persian OCR, C++, Windows
    - Invent a new algorithm to find alphabet in text using graphs and trees

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Hobbies

- **Thinkora** [C++] Whiteboard app with built-in OCR (WIP)
- **Key-Pal** [C++, Embedded] End to End Access Control System
- **http-server** [C++, asio, beast, wasm] Http server allowing C++ code to be used for backend and frontend
  Widgets can be defined as C++ classes and be rendered both at server-side and/or client-side
- **jsonio** [C++] Open-source library to parse and edit json https://github.com/virtualmatador/jsonio
- **Cross** [C++, Java, Swift, HTML, CSS, JS, GTK, Webkit, Soundio]
  SDK to create GUI applications for multiple platforms using single code base
  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] Generate autostereogram from given pattern www.shaidin.com/depth
- **Digital Clock** [C, AVR ATmega32] Digital clock with Persian calendar, alarm, timer, and stopwatch
- **Input** [C++] Process body movements using Kinect and generate keyboard events to play games without using keyboard
- **ABO Game** [C++, OpenGL2] A game to practice blood types

Awards

- Ranked 18th at physics olympiad in Iran, 2000
- Ranked 2nd at admission to "Azadegan" governmental leading high school - Maragheh, Iran, 1998
- Ranked 7th at admission to "Allame Amini" governmental leading middle school - Bonab, Iran, 1995

Education

- 2017 - Some College - Computer Science - Richland College - Dallas, TX
- 2002 - Pre-University - Mathematics and Physics - "Saadi" governmental leading high school - Tabriz, Iran
- 2001 - High School Diploma - Mathematics and Physics - "Azadegan" governmental leading 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
- Robotic
- Cognition

Languages

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