

# AMIR KARIMI

Senior Software Engineer

Last update: April 2022

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Vancouver, BC

## EMPLOYMENT

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**Software Engineer** **Amazon - Vancouver, Canada** **Nov 2022**

- Utilizing advanced ML algorithms to overcome advertising attribution challenges while maintaining compliance with strict privacy regulations that prohibit user identity capture and storage.
- Processing petabytes of data on a daily basis.
- Demonstrating exceptional leadership skills by becoming a project lead within two months of joining Amazon.
- Contributing significantly to re-architecting and improving the data processing pipeline, reducing the pipeline jobs from around 40 to 10.

**Principal Software Architecture** **Acceptto - Vancouver, Canada** **May 2019 - Nov 2022**

- Promoted to lead the core engineering team consisting of 5 engineers developing the company's core product.
- Reduced customer onboarding time from days to hours by developing a horizontally scalable, full-duplex communication service for the customer directory agent.
- Led the redesign and implementation of the next generation of Acceptto's SSO microservice to make it horizontally scalable and highly available.
- Designed and implemented a policy orchestration engine module that allows customers to control the Acceptto's authentication system behavior with or without writing code.
- Increased the availability and scalability of the company's core services by leading the migration to AWS and adding multi-region disaster recovery support, done using Terraform.
- Helped the sales team to close two deals that increased the company's annual income by almost 30%, by leading the technical sale and architecture design calls.
- Acceptto was acquired by SecureAuth in Nov 2021.

**Site Reliability Engineer** **Disney Streaming Services - Manchester, UK** **Apr 2018 - Mar 2019**

- One of the main contributors to establishing the SRE practices within Disney Streaming Services as the 4th member of the newly shaped SRE team in the company.
- Implemented a transparent cross-region replication support for AWS Kinesis resources to be used by development teams (Kinesis did not offer such service at the time).
- Helped three different teams within a year to prepare for big launches that required handling thousands of requests per second by reviewing the architecture, building high throughput performance tests, chaos engineering, and building necessary tools and processes to improve reliability.

**Software Engineer** **Disney Streaming Services - Manchester, UK** **Apr 2017 - Mar 2018**

- Developed scalable microservices capable of handling tens of thousands of requests per second using Scala, Play, DynamoDB, AWS Lambda, Kinesis, SQS, S3, etc.
- Contributed directly to the design and implementation of a new subscription system for BAMTech Media, which was later used in Disney+.
- The original company name was Cake Solutions. It was acquired by BAMTech and then Disney in 2017.

**Software Designer and Developer** **Self-Employed / Contractor - Tehran, Iran** **Jan 2006 - Mar 2017**

- Designed and developed more than 30 custom-built web, desktop, mobile and system applications using different technologies and languages. See some of my works done as a solo developer under [Featured Projects](#) section.
- Worked directly with clients from corporate to individual entrepreneurs as a contractor or partner.
- Built and managed a network of developers by setting up a transparent system to share the project's financial value with the whole team based on the value each member adds. It was a successful alternative to the traditional employment structure of corporations to attract the best talents.

**Software Developer** **Behsad - Arak, Iran** **Jan 2004 - Dec 2005**

- Software developer in a team of 3, consists of two academic researchers building a 2D cutting-stock problem-solving desktop GUI application for the first of its kind in Iran. Written in C++ and utilizing the Genetic Algorithm, it was solving

general cutting-stock problems with less than 5% waste on average.

- Designed and implemented dozens of applications using C#, .NET, and MSSQL.
- Mentored and led a team of junior developers.

## FEATURED PROJECTS

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- **Book Coupon Distribution System** (2016) - Registration and payment system to handle the sales of book coupons for students used in official Iranian book fairs. This app handled the equivalent of \$2,000,000 transactions within two weeks for Tehran International Book Fair. Probably the largest project built entirely using the Scala ecosystem in Iran at the time. (Scala, Play, MongoDB, JS/HTML/CSS)
- **Fair Registration and Management System** (2014) - A custom-made fair registration system automates book publishers' registration process, allowing visitors to search for books and publisher locations online. It handled more than 40 provincial book fairs in the country, including the Tehran International Book Fair, with Alexa's rank below 500 among Iranian websites during the fair times. Handling more than 400 concurrent HTTP requests during peak time while system load is below 1 on a 6 core x64 CPU using 2.5GB of RAM. (Scala, Play, MongoDB, JS/HTML/CSS)
- **Pluggable Authentication Module (PAM) for Acceptto MFA service** (2014) - A Pluggable Authentication Module (PMA) that integrates with Acceptto multi-factor authentication service. It allows adding MFA to all Linux services supporting PAM, such as SSH or local user logins. (C, Linux)
- **Marine Services Management** (2012) - Automation of marine services management consists of a desktop application and backend services. The desktop app can work in offline mode and synchronize the data when online. Also, implemented a licensing system as part of this project preventing illegal copies. (C#, WPF)
- **Steam Boiler Simulation Software** (2011) - A GUI desktop app that simulates a virtual power generator steam boiler. Allows building boiler simulation environments by drag-and-dropping the boiler elements, specifying the connections and parameters, running the simulation and report the results visually. (C#, WPF, Fortran)
- **Enterprise Report Builder** (2010) - This project has started based on IRISL need for a highly customizable report building system. The customer was not able to produce their reports using off-the-shelf reporting software. This software was a set of tools, templating system, and integration with Microsoft Office Suite providing the flexibility customer needed minimizing manual operations. (C#, .NET)
- **Boot loader (Personal Project)** (2001) - A boot loader program loaded onto a floppy disk, built using my home-grown text rendering library. It was an effort to develop a basic operating system. I learned about working with low-level IO, direct screen memory access handling, memory management, and re-implemented some functions of the C standard library since the original ones depended on MS-DOS. (C, Assembly, MS Debug)

## EDUCATION

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<b>B.S.E in Computer Science Engineering</b>	<b>Azad - Iran</b>	<b>2005 - 2007</b>
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- Created a full-featured messenger system from scratch, including a custom binary protocol written in C++.
- Gave talks about Computer Networks & Socket Programming.

<b>AEng in Computer Software</b>	<b>Elmi-Karbordi - Iran</b>	<b>2003 - 2005</b>
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- Developed a boot loader program rendering colorful demonstrative content in text mode as an effort to develop a basic operating system. Learned working with IO, direct screen memory access handling, memory management (used linked-list data structure), re-implementing some functions of the C standard library from scratch.
- Was selected as the top 3 students to participate in ACM Asian regional contest.
- The youngest student attending this university at age 17.

## TECHNICAL SKILLS

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- Functional Programming; Distributed Systems; Serverless; TDD; OOP; SOLID; Agile; Kanban
- Python; Go; JavaScript/TypeScript; HTML/CSS; Scala; Java; Ruby; C/C++ (prior experience)
- FastAPI; Django; Rails; Play; Akka; VueJS
- Linux; Docker; AWS; Kubernetes; Terraform
- Postgres; MySQL; AWS DynamoDB; MongoDB; AWS Kinesis; Kafka