

*In the Name of Allah, the Most Gracious, the Most Merciful*



# Aseman Manzar, Mohammad Mohsen

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## PERSONAL DETAILS

<i>Birth</i>	February 10, 1996
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## EDUCATION

### PhD in Computer Engineering, Software

2020-present

*Sharif University of Technology*

Direct Admission

*Supervisor: Dr. Mohammad Izadi*

### MSc. in Computer Engineering, Software

2018-2020

*Sharif University of Technology*

Direct Admission, 19.15 GPA

*Project: Big Data Application Performance Prediction and Cost-based Heterogeneous Resource Recommendation in Cloud*

*Supervisor: Prof. Ali Movaghar*

### BSc. in Computer Engineering, Software

2014-2018

*Iran University of Science & Technology*

First Rank, 18.76 GPA

*Project: Mixed Performance and Power Consumption Modeling in Virtual Machine Using Coloured Petri Nets*

*Supervisor: Dr. Mohammad Abdollahi Azgomi*

### Diploma, Mathematics & Physics

2010-2014

*Allameh Tabatabai School*

## WORK EXPERIENCE

### Senior Software Developer & System Architect

2016-present

*HooshRavan*

HooshRavan was born in March 2016 and now its main focus is on "Smart Home Devices." On the market side, The products are known by *Hinava* brand. I joined HooshRavan in 2016 as an iOS developer. One and a half years later, I joined the backend team to rewrite the whole backend stack to achieve more uptime and stability. Two years later, I wrote the client web application.

**Client/Server Developer****2014-2019***Elmogame Game Studio*

Elmogame studio is a game studio founded by Iran University of Science and Technology students in 2013. At the time I was with the team, we published two online android games "Farmuler" and "Footyard" that I was one of the Unity3D developers on these two projects. Besides we were working on another game named "Kalanshahr" that I wrote the backend of this game. This game was later published with the name "NewCity".

**iOS Developer****2015-2016***Hamayeh R&D*

Hamayeh was established in 1995, originally aiming at Automation of Control Systems and in less than 5 years of hard work and experience managed to become the major manufacturer of a wide range of different lighting systems equipment. At that time, the R&D team was working towards making a good Smart Home solution and I was working there to write and maintain its iOS client.

**TEACHER ASSISTANT****Verification of Reactive Systems****Spring 2020***Prof. Ali Movaghar*

Textbook: Principles of model checking *written by C. Baier & JP. Katoen*

**Principles of Computational Intelligence****Spring 2018***Dr. Naser Mozayeni***Advanced Programming****Spring 2016***Dr. Adel Torkaman Rahmani***Fundamental of Computer Programming****Fall 2015***Dr. Adel Torkaman Rahmani***SELECTED COURSES**

<i>Advanced Programming</i>	20 / 20
<i>Discrete Mathematics</i>	20 / 20
<i>Data Structures</i>	20 / 20
<i>The Theory of Formal Languages and Automata</i>	20 / 20
<i>System Analysis and Design</i>	20 / 20
<i>Software Engineering</i>	19 / 20
<i>Operating Systems</i>	19.6 / 20
<i>Artificial Intelligence and Expert Systems</i>	20 / 20
<i>Computer Networks</i>	17.7 / 20
<i>Software Testing</i>	20 / 20
<i>Formal Methods in Software Engineering</i>	20 / 20
<i>Object-Oriented Analysis and Design</i>	19.6 / 20
<i>Formal Specification and Verification of Programs</i>	19.0 / 20
<i>Computer System Performance Evaluation</i>	19.3 / 20
<i>Theory of Distributed Systems</i>	19.7 / 20
<i>Algorithmic Game Theory</i>	19.5 / 20
<i>Semantic Web</i>	20 / 20
<i>Data Mining</i>	20 / 20

## PUBLICATION

### Big Data Application Performance Prediction and Cost-based Heterogeneous Resource Recommendation in Cloud

Writing

Mohammad-Mohsen Aseman-Manzar, Soroush Karimian-Aliabadi,  
Reza Entezari-Maleki and Ali Movaghar

### Fixed-point Iterations Approach to Spark Scalable Performance Modeling and Evaluation

Under review

Soroush Karimian-Aliabadi, Mohammad-Mohsen Aseman-Manzar,  
Reza Entezari-Maleki, Danilo Ardagna, Bernhard Egger and Ali Movaghar  
Journal of IEEE Transactions on Cloud Computing

### Designing a platform for analysing games' users' data and classification of essential metrics (in persian)

2017 Nov.

Mohammad-Mohsen Aseman-Manzar, Sarah Aseman-Manzar and Behrooz Minaei  
1st Digital Games Research Conference (DGRC), <https://civilica.com/doc/696919>

## PROJECT

### MSc. Project

2018-2020

*Supervisor: Prof. Ali Movaghar*

Project Title: Big Data Application Performance Prediction and Cost-based Heterogeneous Resource Recommendation in Cloud

Spark Hadoop 2.x, 3.x Yarn Linear Programming Performance Prediction  
TPC-DS Benchmark Gurobi

### BSc. Project

2017-2018

*Supervisor: Dr. Mohammad Abdollahi Azgomi*

Project Title: Mixed Performance and Power Consumption Modeling in Virtual Machine Using Coloured Petri Nets

CPN-Tools ML Language Performance Modeling Power Consumption Modeling

### Hinava Smart Home

2016-present

*Senior iOS/Backend/WebApp Developer & System Architect*

Hinava is a smart home system developed in Hooshnavan company in Iran. It is one of the first and best manufacturers of smart home systems in the country. The system in Hinava smart home includes three parts; Hardware devices, Hinava cloud service, and mobile applications. The devices include a central panel which acts as a gateway to our system. other devices like sensors and actuators are connected to the central panel and through it, they connect to user's app on smartphones or tablets.

(iOS: Swift) (WebApp: React) (Backend: Docker Docker Swarm CockroachDB Redis  
Openresty HAProxy Golang Python Kibana Elasticsearch Grafana Prometheus  
and so on)

## Kalanshahr (NewCity) Game

2016-2020

*Backend Developer*

Kalanshahr is an online strategy game that each player should manage his/her city by choosing appropriate defensive strategies to avoid robbery. Each player will build his/her own city and players are usually able to walk around the other players' cities to become aware of their status. Players are also able to watch the inner view of the building in the cities.

[Docker](#) [PostgreSQL](#) [Redis](#) [Python](#) [Nginx](#)

## Footyard Game

2015-2017

*Unity3D Developer (Physics, Gameplay, AI, etc.)*

Footyard is an online football management game with online gameplay. Each player will have his/her team and he/she is responsible for his/her team management. It is also possible to find friends and hang out with them. This game is like the famous Soccer Stars game but with more features.

[Unity3D](#) [C#](#) [RabbitMQ](#)

## Gametic - A Game Analytics Tool

2016-2017

*Product Manager, Backend Developer*

Gametic is an analytics tool that is specialized for games. Gametic supports many analytics reports in a user-friendly web-based dashboard in two categories of user reports and financial reports. user reports such as daily active users, users retentions, and sticky factor. financial reports such as ARPU, LTV, and Paid Rate.

[Docker](#) [MongoDB Sharded Cluster](#) [MongoDB Aggregation Pipeline](#) [Redis](#) [Nginx](#)  
[Golang](#) [Gin Framework](#) [Python](#) [Vegeta \(load testing tool\)](#)

## Farmuler Game

2015-2016

*Unity3D Developer (Online Gameplay)*

Farmuler is an online multiplayer farm game, that publishes for Android devices. Farmuler has two parts included online multiplayer and offline single player. In the offline part, 120 levels are designed and divided into 4 seasons of a year. Players should achieve each level goal at the proper time and they have to demonstrate their skill of time management and resource management to approach the aims. Players will be rewards as they get to the goals sooner.

[Unity3D](#) [C#](#) [Websocket](#)

## SKILL

<i>Languages</i>	PERSIAN (MOTHER TONGUE) ENGLISH (LIMITED WORKING PROFICIENCY, MSRT 70%)
<i>Programming Languages</i>	PYTHON, GO, SWIFT, C#, JAVA, JAVASCRIPT, SQL, C/C++
<i>Data Stores</i>	REDIS, POSTGRESQL, MONGODB, COCKROACHDB
<i>Industry Knowledges</i>	BACKEND, iOS, FRONTEND, GAME DEV., DATABASE DESIGN, ORCHESTRATION, ARCHITECTURE DESIGN, SOFTWARE TESTING
<i>Web Frameworks</i>	FLASK, DJANGO, GIN, REACT
<i>Other Softwares</i>	DOCKER, GIT, UNITY3D, CPN-TOOLS, L <sup>A</sup> T <sub>E</sub> X