

AMIRMOHAMMAD ZARIF SHAHSAVAN NEJAD

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EXPERIENCE

BInSDeLa, Amirkabir University of Technology (Tehran Polytechnic)

Dec 2019 – Present

Research Assistant

Tehran, Iran

- Worked on the AI development of autonomous cars, done research in this field.
- Collaborated with University of Manitoba and National Taiwan Normal University.
- Worked under the supervision of prof. Soroush Sadeghnejad and prof. Jacky Baltes (from Ostfalia University of Applied Sciences, Wolfenbüttel, Germany.)

AVIS Engine

Feb 2020 – Present

Senior Software Engineering Lead

Seoul, South Korea

- AVIS(Autonomous Vehicles Intelligent simulation software) Engine is All developers need for Autonomous vehicle development. We Implemented Realistic Physics, Lighting, Controls to make developers get the best output for their research.
- Developed a cross-platform simulation software for autonomous cars named AVIS Engine, which is a fast and robust software that helps researchers get their hands on the AI and software development of these cars.
- The AVIS Engine is developed on top of and Unity and is integrated with a lot of technologies and programming languages.
- Compression, simulation, optimization and networking are the most important fields that I worked on this project.

FIRA RoboWorld Cup

Feb. 2021 – present

General Committee Chair

World-wide

- Successfully held 3 world-wide competitions in autonomous cars league which had participants from universities around the world such as Stanford, University of California, Teft,
- We have implemented an autonomous car simulator based on ROS and Gazebo which was used in the 2021 Online worldwide competition of FIRA RoboWorld Cup called FIRA RoboWorld Cup SDE(Social Distancing Edition).
- The simulation and competition platform for this competition is actually a reimplemented version of our original AVIS Engine ported to ROS and Gazebo.

Beroozresani

May 2018 – Aug 2019

Software Developer

Mashhad, Iran

- Joined the team as an Android Developer to re-build the company's technology news app which already had 1000+ users.
- Managed to re-build the entire app. The new was enormously faster, more user-friendly and more efficient.
- It led to gaining over 100,000 new users with high daily time in app.

Touchsi

Jan 2018 – May 2019

Software Developer

Mashhad, Iran

- Developed a web application for an Iranian mobility as a service provider using React.js
- The application gained over 200,000+ users.

Microdev

April. 2014 – present

Founder

Mashhad, Iran

- Started as a small team, aimed to develop software for industrial applications.
- Guided the team to achieve high efficiency development process.
- Developed over 20 projects in industry which are still being used.

EDUCATION

West Tehran Branch Islamic Azad University

Sep. 2021 – May 2025

Bachelor of Science in Computer Engineering

Tehran, Iran

- Cumulative GPA = 3.89 / 4

PROJECTS

- Amirkabir University of Technology Electrical Engineering Website** | *MySQL, PHP, JS* **November 2022**
- Website for Amirkabir University of Technology (Tehran Polytechnic) Electrical Engineering department.
 - Accessible from: avisengine.com/autee/v2/
- Delta Robot** | *Kinematics, OpenCV, C++, ImGUI, Vulkan, Rendering, Electronics, Python* **October 2022**
- Pick and place delta robot for mosaic art , I developed the software and electronics for this project.
 - The software consists of three main parts, including a firmware for the board which was written in **C++**, client software which was also written in **C++**, and a cloud based platform which relied on **JavaScript and React JS**
- RAMAN Robot AI** | *Computer Vision, AI, Web Development, AI in Web, OpenCV* **May 2022**
- A human to computer interaction robot.
 - Developed the face visuals and AI.
 - Web based computer vision using **OpenCV**.
- Backend Saz** | *PHP, Web development, Database, System Design, REST API, GraphQL API, Linux* **January 2021**
- Backend saz is a backend automator tool and content management system for developers and business owners developing their business without the need of setting up a server.
 - The main motivation that made us develop it was directly based on our needs in our app development process, and with this website/tool, we were able to enormously accelerate the backend and dashboard development in the app development process (Around 80 faster development).
 - The website also aimed to help Data Scientists and ML Engineers. And included these features: - Databases and Datasources - Storing Special data types - No-code automatically-generated REST API - No-code automatically-generated GraphQL API - Mock JSON sharing - Collaboration - Team management
- AUTMan Website** | *Web Development, MySQL, Database, PHP* **December 2021**
- Website for BInSDeLa(Bio-Inspired System Design Lab) at Amirkabir University of Technology (Tehran Polytechnic).
 - Accessible from: autman.aut.ac.ir
- MohandesPod Podcast Website** | *Web Development, MySQL, Database, PHP* **April 2021**
- Podcast website and feed.
 - Accessible from: mohandespod.com
- Iran FIRA Academy LMS** | *System Design, Web Development, SQL Databases, Django, React.js, PHP* **April 2022**
- LMS and course system for Iran FIRA Academy.
 - Accessible from: iranedu.firaworldcup.org/reg
- Iran FIRA Academy Website** | *Web Development, MySQL, Database, PHP, Wordpress Development* **2021**
- Accessible from: iranedu.firaworldcup.org
- FIRA RoboWorld Cup** | *Web Development, MySQL, Database, PHP, Wordpress Development* **2020**
- Accessible from: firaworldcup.org
- FardisMehr School Portal** | *Web Development, MySQL, Database, PHP* **2021**
- Accessible from: fardismehr.info/registration/schools
- FIRA Autonomous Cars Committee Website** | *Web Development, MySQL, Database, PHP* **2020**
- Accessible from: acc.firaworldcup.org

CERTIFICATES

- Stanford University** | *Writing in the Sciences - Credential ID: KEU32LZBLR4K* **May 2022**

HONORS AND AWARDS

Best Paper Award in FIRA World Summit 2021	December 2021
Best student researcher in Iran in 2018	November 2019
1 st place in the world in FIRA RoboWorld Cup 2019 (South Korea) in Autonomous Cars Pro League	August 2019
1 st Place at 4th Youth khwarizmi Festival 2018	August 2018
1 st Place in 10th Iran Techno Mark 2019	August 2018
1 st place in CodeCup 4 Laravel programming contest	January 2018
1 st place in the world in FIRA RoboWorld Cup 2017 (Taiwan) in DRC-Explorer League	August 2017
4 th place in Iran RoboCup Rescue A League	April 2017
1 st place in Sharif University of Technology Android programming contest	March 2016
3 rd place in Sharif University of Technology Android programming contest	March 2015

PUBLICATIONS

Zarif, A., Zarif, A. M. (2021). AVIS Engine: A high-performance Simulation Software for Autonomous Vehicles. Federation of International Robot-Sports Association.

TEACHING

AUT Summer Camp, Applications of AI and Computer Vision in Autonomous Cars **Summer 2022**

Amirkabir University of Technology (Tehran Polytechnic)

- Trained and mentored students from universities all across the country.
- The topics for the course included: Computer Vision, Artificial Intelligent, Simulation, Optimization, Autonomous Cars