

# Reza Mahjourian

[Click for list of publications](#)

## EDUCATION

### UNIV. OF TEXAS AT AUSTIN

PHD IN COMPUTER SCIENCE

2018 | GPA: 4.0

### UNIVERSITY OF FLORIDA

MS IN COMPUTER SCIENCE

2008 | Gainesville, FL | GPA: 4.0

### SHARIF UNIV. OF TECH.

BS IN COMPUTER ENG.

2002 | Tehran, Iran

## SKILLS

### A.I. RESEARCH

Deep Learning • Computer Vision •  
Reinforcement Learning • Evolutionary  
Strategies • Robotics

### SOFTWARE ENGINEERING

Programming:

Python • TensorFlow • C++ • Lua

Databases:

PostgreSQL, PL/pgSQL

Linux:

Bash Programming • Sed • AWK.

Design Documents

## OPEN SOURCE

**XPage** : Light-weight web framework,  
transforms high-level page specs in XML  
to server-side scripts using XSLT. **2002**

**GameGraph** : Study impact of domain

stochasticity and ergodicity on RL. **2011**

**Discovery** : Evolutionary feature

discovery for RL. **2011**

**OpenNERO** : Platform for A.I. research

and education (contributor). **2014**

**Master-Worker** : C++ Python :

Library for coordinating cluster workers

through a shared file system. **2016**

## HOBBY PROJECTS

**SharifNET** : Community website with

custom-developed message board for

Sharif University students. **1999**

**Logestan** : RSS feed aggregator. **2004**

## EXPERIENCE

### WAYMO RESEARCH | SENIOR RESEARCH SCIENTIST

Jul 2019 - present | Mountain View, CA

- Organized Waymo Open Dataset Occupancy and Flow Prediction Challenge. [Website](#) , [RA-L Paper](#)
- StopNet: Scalable Trajectory and Occupancy Prediction, ICRA 2022 [Paper](#)
- Defined intern project for quantifying agent-to-agent interactions [Paper](#) .  
Metric used to mine interactive scenarios for WOD Motion Dataset [Website](#)
- ESeg: state-of-the-art real-time semantic segmentation [Paper](#)

### GOOGLE BRAIN ROBOTICS | STUDENT RESEARCHER

Sep 2017 - Nov 2018 | Mountain View, CA

- Sample-efficient reinforcement learning of robot table tennis with self-play in a VR environment. [Paper](#) , [Website](#)
- Unsupervised learning of object depth and motion from raw monocular videos. [AAAI 2019 Paper](#) , [Website](#) , [Google AI Blog](#) , patent application.
- Future semantic segmentation using 3D structure. [ECCV 2018 3D Reconstruction meets Semantics Workshop Paper](#) , patent application.
- Published the [Bike Video dataset](#)
- Received peer bonus for collaboration with secondary team.
- Added SSIM and PSNR library functions to [TensorFlow](#)

### GOOGLE BRAIN ROBOTICS | RESEARCH INTERN

May 2017 - Aug 2017 | Mountain View, CA

- Developed a novel method for unsupervised learning of depth and ego-motion from monocular videos. [Website](#) , patent application.
- Developed custom TensorFlow op for aligning 3D point clouds during training.
- [CVPR 2018 Paper](#) , [Website](#) .
- [ICRA 2018 Workshop on Representing a Complex World Paper](#) .

### GOOGLE BRAIN | RESEARCH INTERN

May 2016 - Aug 2016 | Mountain View, CA

- Worked on next-frame prediction in video.
- [IEEE Intelligent Vehicles Symposium 2017 Paper](#) , patent application.

### GOOGLE | SOFTWARE ENGINEERING INTERN

Jun 2015 - Aug 2015 | Mountain View, CA

- Created a sparse-feature deep learning model for Google's ad publishing platform using DistBelief. Improved performance by 1.38% over existing model.
- Created a framework for managing experiments with different model variants.
- Added support for ColumnIO files to DistBelief (now TensorFlow).

### TEAMUP | START-UP LEAD DEVELOPER

Jul 2009 - Dec 2009 | London, UK

- Created a Django web app for managing fitness and sports businesses.
- Led the project from inception to beta release [Website](#)

## **UF COLLEGE OF EDUCATION | PART-TIME SOFTWARE DEVELOPER**

Jul 2008 - Aug 2008 | Gainesville, FL

- Created a web app for teachers to monitor progress of special students (used XPage).

## **FLORIDA MUSEUM OF NATURAL HISTORY | SOFTWARE DEVELOPER**

Jun 2006 - Aug 2007 | Gainesville, FL

- Created two web apps for managing the specimen in the Lepidoptera (butterflies) and fish research collections (used XPage).

## **TELEMEDIA | SOFTWARE ENGINEER**

Sep 2004 - Dec 2005 | Paris, France

- Created a web app for KDDI (network operator in France) enabling partners to query their call data records (used XPage).
- Created a PostgreSQL database pooling call detail records from telecom devices. Optimized the database design and server for fast queries.
- Developed a Python backend to receive and fulfill orders for mobile content from web services or the GPRS network over SMPP.

## **VEESTA WORLD CO | SOFTWARE ENGINEER**

Sep 2003 - Sep 2004 | Tehran, Iran

- Implemented a SCADA communication protocol for an industrial RTU, running on the PSOS real-time OS. RTUs were deployed in a system monitoring the national power network.

## **SCIENCE AND ARTS FOUNDATION (NON-PROFIT) | SOFTWARE DEVELOPER, SYSTEM ADMIN**

Aug 1999 - Aug 2003 | Tehran, Iran

This organization was based in Sharif University of Technology's Computing Center. It donated computers and Internet access to model schools in underprivileged areas.

- Managed Linux servers for a network of about a 100 schools connected to Sharif University.
- Created a website offering educational content and services to students.
- Facilitated participation of students in collaborative projects. Talks: "The Experiences of iEARN in Iran", Osaka, Japan, 2003. "How to Make a School Intranet Using Free and Open-Source Software", Moscow, Russia, 2002. "The Activities of Science and Arts Foundation in Iran", Cape Town, South Africa, 2001.

## **FREELANCE SOFTWARE DEVELOPER**

2001 - 2002 | TakTaz Motor - Motorcycle Manufacturer, Tehran, Iran

- Created a web app and an Oracle database enabling the sales office, factory, and dealers to collaboratively manage inventory, wholesale orders, shipments, and registration documents.

1998 - 1999 | Kaveh Khodro - Automaker, Tehran, Iran

- Created a FoxPro application for managing and monitoring the flow of deliveries from suppliers.

1997

- Developed a multiple-choice test evaluation package in FoxPro, offering reports on student performance and progress over time.

## **IDEH-NEGAR SOFTWARE | SOFTWARE DEVELOPER**

Dec 1995 - Apr 1997 | Tehran, Iran

- Programmed custom FoxPro database applications for company clients.
- Created a FoxPro app for managing the company's CD rental business.
- Created a computer telephony app answering user queries over the phone.
- Programmed a C library for visualizing metrics in a neural OCR program.

## AWARDS

2008	Provost Fellowship	University of Southern California
2007	Outstanding Academic Accomplishment	University of Florida
2002	98 <sup>th</sup> percentile	Computer Science GRE Test
1995	Outstanding Student Award	Sharif University of Technology
1995	78 <sup>th</sup> /400k	National college entrance exams
1994	National	Iranian Informatics Olympiad