

Kiarash Aghakasiri

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PERSONAL DETAILS

<i>Birth</i>	July 16, 1997
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INTEREST

- Reinforcement Learning / Artificial Intelligence
- Model-Based RL / Planning in Imperfect Domains

EDUCATION

University of Alberta

MSc. Computing Science

Edmonton, Alberta, Canada

September 2019 - Present

(GPA = 4)

Iran University of Science and Technology

BSc. Computer Engineering concentration on AI

Rank 3rd among Iran universities by QS Ranking

Tehran, Tehran, Iran

September 2015 - July 2019

(GPA = 3.87)

Allameh-Helli (NODET)

MidSchool, HighSchool, PreUniversity

National Organization for Development of Exceptional Talent

Tehran, Tehran, Iran

September 2008 - June 2015

(Diploma GPA = 4)

PERSONAL ACHIEVEMENTS

- Succeeded to rank second top student in B.S. with $GPA \frac{17.78}{20} = 3.87/4$
- Winning an award for being the top student of the year 2016 and 3rd top student of the year 2017
- Being in the first 0.1% in national graduate school entrance examination
- Gain an opportunity for going to MSc without taking the national entrance examination from two of Iran best universities (Sharif University of Technology and Iran University of Science and Technology)
- Participate in university booth in the "18th Exhibition of Research, Technology Achievements and Techmart" and Succeeded to Achieve one of the 12th best booths in the exhibition

- Win a second place in intra-university ACM tournament
- Being a member of National Organization for Development of Exceptional Talent for ten years
- Admission at the first stage of Mathematics and Computer Olympiads in high school

PUBLICATIONS

- Fatemeh Karimkhani, H. Rahmani, Arezoo Zare, Raana Saheb Nassagh and Kiarash Aghakasiri: Tarvajeh: Word association norms for Persian words. In: Journal of Psycholinguistic Research, 2020

ACADEMIC PROJECTS

M.Sc Projects:

- MSc Thesis (On going) **Supervisors: Dr. Martin Müller**
 -Adapting planning algorithms such as MCTS, for imperfect domains using uncertainty measures
 -Investigating different approaches to capture uncertainty in a model
 -Showing that search with perfect models can in fact increase the performance even when value function capacity is not enough
- Reinforcement Learning I **Instructor: Dr. Martha White**
 -Is heteroscedastic regression a sound way to approximate model uncertainty? → 1st Submission
- Reinforcement Learning II **Instructor: Dr. Richard Sutton**
 -Investigating Sensitivity of Step Size and Performance in True online TD(λ) for Different Values of λ → Project Report
- Intro to Machine Learning **Instructor: Dr. Martha White**
 -Applying Variance Reduction Methods to Policy Evaluation for Off-Policy Setting → Project Report
- Deep Learning for NLP **Instructor: Dr. Lili Mou**
 -Named Entity Recognition performance on Out of Vocabulary words → Project Report

B.Sc Projects:

- B.Sc Thesis **Supervisors: Dr. Nasser Mozayani & Dr. Sauleh Eetemadi**
 -Image Captioning using Attention mechanism on translated MSCoCo Dataset, using Tensorflow on Google Colaboratory (working with another B.Sc student)
- Machine Learning Lab **Supervisor : Dr. Nasser Mozayani**
 -Reducing the convergence time for Deep Q-Learning algorithms with Transfer Learning for ATARI games, using Autoencoder and Variational Autoencoder as State Representation (working in a group of 4 people)

- Data Mining Lab **Supervisor : Dr. Hossein Rahmani**
 - Working with a M.S student, crawling twitter using Twint and Python, to gather a dataset for hashtag recommendation
 - Gathering Dataset for Persian language Word Association Norms and analyzing it and publishing the Dataset (working in a group of 4 people)
 - Fraud Detection for German Bank Dataset using SPSS MODELER
- Computational Intelligence Course **Instructor : Dr. Nasser Mozayani**
 - Solving Inverted Pendulum problem with Fuzzy Logic and Reinforcement Learning (Q-Learning)
 - Image Recognition with Multi Layer Perceptron for MNIST database using NUMPY,KERAS
 - Function approximation with MLP (Multi Layer Perceptron) and RBF (Radial Basis Function)
 - Genetic Algorithm for N-Queen problem
- Natural Language Processing Course **Instructor : Dr. Sauleh Eetemadi**
 - Machine Translation for Poetry to Prose and vice versa using OPENNMT
 - Sentiment Analysis (for tweets that have #worldcup) using AFINN
 - Naive Bayes and Maximum Entropy classifiers for speeches of two famous persian politicians
- Artificial Intelligence & Expert Systems Course **Instructor : Dr. Behrouz Minaei-Bidgoli**
 - Face Recognition for LFW (Labeled Face in the Wild) dataset using OPENCV
- Advanced Computer Programming Course **Instructor : Dr. Adel Torkaman Rahmani**
 - Prototype of Social Network Website with comment, like, and post abilities
 - Web Scraper and Search Engine using SCRAPY
 - File Manager with python

TECHNICAL SKILLS

Programming and Scripting Languages

Proficient at: PYTHON, C++, C, PASCAL

Familiar with: ASSEMBLY 8086, MATLAB

Operating System

MAC OSX, LINUX

Tools and Frameworks

Learning Tools: PYTORCH, TENSORFLOW, NUMPY, KERAS, OPENCV, SCIKIT-LEARN

NLP Tools: VOWPAL WABBIT, OPENNMT

Web Application Tools: BEAUTIFULSOUP, SELENIUM , SCRAPY, TWINT

System Tools: PTHREADS, NACHOS

Data Mining Tools: SPSS MODELER(CLEMENTINE)

Hardware Tools: XILINX ISE, AVR STUDIO, CODE VISION AVR, LOGISIM

WORKING EXPERIENCE

Huawei Edmonton

Edmonton, Alberta, Canada

Support Research Intern

January 2021 - June 2021

Working as an intern in the Tensor team in Huawei Edmonton

Supervisor: Wei Lu

ACADEMIC EXPERIENCE

University of Alberta

Edmonton, Alberta, Canada

Research Assistant

March 2020 - Present

Doing research on Model Based Reinforcement Learning, specifically on adapting search algorithms, such as MCTS to imperfect domains and utilizing them in MBRL methods

Supervisor: Dr. Martin Müller

Basics of Machine Learning TA

January 2021 - April 2021

Teaching basics of statistics (MLE, MAP), function optimization, classification, regression

Instructor: Dr. Martha White

Intro to Foundations of Computing TA

September 2020 - December 2020

Teaching Python to Undergrad students

Instructors: Dr. Sadaf Ahmed, Dr. Joerg Sander

Basics of Machine Learning TA

January 2020 - April 2020

Teaching basics of statistics (MLE, MAP), function optimization, classification, regression

Instructor: Dr. Martha White

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September 2019 - December 2019

Teaching Python to Undergrad students

Instructors: Dr. Geoff Hollis, Dr. Sadaf Ahmed, Dr. Joerg Sander

Iran University of Science and Technology

Tehran, Tehran, Iran

Machine Learning Researcher

June 2018 - July 2019

Transfer Learning for RL Agents / Image Captioning for Persian Language

Supervisor : Dr. Nasser Mozayani

Data Mining Researcher

January 2016 - July 2019

Fraud Detection / Persian Word Association Norms / Dataset for Hashtag Recommendation

Supervisor: Dr. Hossein Rahmani

Computational Intelligence Tutor

January 2019 - June 2019

Teaching Neural Networks basics to undergraduate students and assigning small projects in Keras (Python)

Instructor: Dr. Nasser Mozayani

Natural Language Processing Tutor

January 2019 - June 2019

designing small projects for undergraduate student in regard to Persian language

Instructor: Dr. Sauleh Eetemadi

Artificial Intelligence and Expert Systems Tutor

September 2018 - January 2019

Teaching undergraduate students, assigning weekly assignments and give them projects in python

Instructor: Dr. Mohammad Taher Pilehvar

Theory of Languages & Automata Tutor

September 2017 - January 2018

Teaching undergraduate students theoretical aspects of Automata, giving them homework, and checking the answers

Instructor: Dr. Hossein Rahmani

Foundations of Computer & Programming Tutor

September 2016 - January 2017

Teaching undergraduate students python programming and giving them small projects

Instructor: Dr. Adel Torkaman Rahmani

CERTIFICATES & ONLINE COURSE

- CIFAR DLRL Summer School Summer 2021
- Reinforcement Learning Specialization Fall 2019
Instructed by Martha White and Adam White
- Deep Learning Course Fall 2018
Doing Three projects (Multi Layer Perceptron, CNN, RNN) with TensorFlow and working on multi-GPU servers at Sharif University of Technology
- Sequence Models Spring 2018
Instructed by Andrew Ng
- Reinforcement Learning Course Summer 2016
Introducing and working with Reinforcement Learning models and taking projects (Learning ATARI games) at Iran University of Science & Technology

SELECTED ACADEMIC COURSES

MSc Courses

Reinforcement Learning I	A
Reinforcement Learning II	A
Intro to Machine Learning	A
Deep Learning for NLP	A

BSc Courses

Natural Language Processing	A ⁺	Computational Intelligence	A
Artificial Intelligence and Expert Systems	A ⁺	Discrete Mathematics	A
Analysis and Design of Algorithms	A	Signals & Systems	A
Operating Systems	A ⁺	Theory of Languages and Automata	A
Data Structure	A	Advanced Computer Programming	A

LANGUAGE SKILLS

<i>Persian</i>	mother tongue
<i>English</i>	Toefl Overall Score: 106
	GRE Quantitative: 168

REFERENCES

Available upon request.