

Amir Abbasi

Education

- **B.S. in Computer Engineering** Sep 2017 - Jul 2021(Expected)
University of Guilan
GPA: 18.16/20

Personal info

Name: Amir Abbasi
Email Address: amir.abbasi.rose@gmail.com
Phone number: +98(0)9363242510
Homepage: amir.abbasii.github.io

Research Interests

Primary areas:

- **Reinforcement Learning:** This is the area that I am very interested in and I work in it as the main area.
- **Adversarial learning:** I'm seeking to utilize this type of learning in other learning methods(especially in RL).Also I'm interested in using GANs to generate unrealistic images.

Secondary areas:

- **Computer Vision**
- **Medical Imaging:** I worked on a medical imaging task and I think it's very interesting to use AI in healthcare.

Academic background

Machine Learning,Deep learning,Adversarial Learning,Reinforcement Learning
Transfer Learning,Multi-task Learning

Research Assistant Experiences

Sperm abnormality detection Sep 2019 – Aug 2020
Under supervision of Dr. S. A. Mirroshandel
· I worked on a Computer Vision task to make some models to detect sperm abnormality detection and we utilized transfer and multitask learning.

Transfer learning in Generative models for generating medical images Nov 2020-Present
Under supervision of Dr. S. A. Mirroshandel
· I'm currently working on a medical imaging task to use GANs for generating medical images.

D3DQN:A Distributional Dueling Double DQN architecture for self-driving cars Feb 2021-Present
Under supervision of Dr. Mahdi Rezaei
· In this project,we are going to train a vehicle to drive in a highway.We're using RL as our framework.

Research Papers

- Effect of deep transfer and multi-task learning on sperm abnormality detection
A. Abbasi, E. Miah, S. A. Mirroshandel
Computers in Biology and Medicine, Jan. 2020. (published)
- Transfer-GAN: Data augmentation using a fine-tuned GAN for sperm morphology classification
A. Abbasi, S. Bahrami, S. Hemmati, S. A. Mirroshandel (under review)
- D3DQN: A Distributional Dueling Double DQN architecture for self-driving cars
A. Abbasi, M. Rezaei (in prep.)

Course Assistant Experiences

Fundamentals of Reinforcement Learning

Oct 2020-Present

Instructors: Adam White, Martha White

Coursera

This course is the first course of Reinforcement Learning Specialization which is one of MOOC courses offered by University of Alberta and it's used in some of Reinforcement Learning courses as assignment in University of Alberta. (According to link)

Duties: Answering students' questions and guiding them in assignments and quizzes (scientific questions, issues in code)

Teaching Assistant Experiences

- **Artificial Intelligence:** Fall 2020
· I designed some of assignments and final project of course. The project was about using A* algorithm to play a game.
- **Computational Intelligence: Head TA** Winter 2020
· I designed list of final projects (with collaboration of the teacher) and also recorded some videos to teach Pytorch.
- **Data Structures: Head TA** Fall 2020
· We designed 3 programming assignment (each assignment has about 5 questions) and also a final project. Finally we evaluated projects.
- **Advanced Programming: Head TA** Winter 2020
· It was a very hard semester due to spreading of Corona virus and was the first time that I had to lead students online. We designed 6 projects, held discussion sessions online and evaluated projects. Fortunately it finished well like a normal semester.
- **Data Structures: Head TA** Fall 2019
· I designed several projects (2 of 5) and also held discussion sessions. Also I evaluated projects of students (with collaboration of other TAs).
- **Advanced Programming:** Winter 2019
· My duty was designing several projects (3 of 7) and also do some of programming examples (such as fundamentals of Java, OOP, Swing, Multi-threading and Socket Programming) to teach students. Also I evaluated projects of students (with collaboration of other TAs).

Leadership Experiences

Ideal Intelligence journal

Jan 2021-Present

Content producer

University of Kharazmi

· I'm a content producer in a magazine that professionally is about AI and our goal is to write scientific articles about lots of AI fields. I mainly write about Reinforcement Learning and some of Computer Vision subjects.

Skills

C++, Java, Python, VHDL, Keras, Pytorch, LaTeX

Self accomplished projects

- Solving CartPole using distributional RL ([link](#))
- learn Tic-Tac-Toe: A simple adversarial tabular Q-learning approach ([link](#))
- Berkeley CS 285: Deep Reinforcement Learning (Fall 2020) ([link](#))
- Iran Stock prediction ([link](#))
- Oocyte Segmentation ([link](#))
- Don't overfit!; Kaggle ([link](#))

Certifications

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| • Reinforcement Learning Specialization (Certificate)
Coursera, Instructors: Adam & Martha White | Sep 2020 |
| • Practical Reinforcement Learning (Certificate)
Coursera | Dec 2020 |
| • Build Basic Generative Adversarial Networks (GANs) (Certificate)
Coursera | Oct 2020 |
| • Deep Learning Specialization (Certificate)
Coursera, Instructor: Andrew Ng. | Dec 2018 |
| • Machine Learning (Certificate)
Coursera, Instructor: Andrew Ng. | Dec 2018 |
| • Java Cup: Java programmer certificate (Certificate)
Javacup Association | Oct 2018 |

Presentations

Reinforcement Learning; A survey
Best courses of Reinforcement Learning
Introduction to Pytorch

Honors & Awards

Full Scholarship, B.sc, University of Guilan Ranked top 3% in the National University Exam in more than 148,000 participants.	July 2017
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Exceptional Talent Ranked within the top 15% among 71 graduates of Computer Engineering class	Jan 2021
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References

Dr. Seyed Abolghasem Mirroshandel Head of Computer Engineering Department, Associate Professor mirroshandel@guilan.ac.ir Homepage Dr. Mirroshandel was my teacher in six courses and also my supervisor in two researches.	University of Guilan Rasht, Iran
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Dr. Mahdi Rezaei University Academic Fellow, Assistant Professor M.Rezaei@leeds.ac.uk Homepage Dr. Rezaei is my supervisor in a research paper.	University of Leeds West Yorkshire, England
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Dr. Seyed Mohammadhossein Shekarian Assistant Professor shekarian@guilan.ac.ir Homepage Dr. Shekarian was my teacher in three courses.	University of Guilan Rasht, Iran
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