AMIRHOSSEIN HASSANKHANI

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EDUCATIONS

2015-PERESENT

Bachelors of Computer Engineering

K. N. Toosi University of Technology, Tehran, Iran

World University Rankings 2020: 800-1000th

GPA: 3.73/4.00 (17.55/20.00)

Last Two Years GPA: 3.98/4.00 (18.53/20.00)

Relevant Coursework: Foundation of Computer Vision, Fundamental of robotics, Artificial Intelligence and Expert System, Algorithm Design, Graph Theory and Algorithms, Numerical Methods, Embedded Systems

2012-2015

Hedayat High School, Tehran, Iran

HONORS AND AWARDS

Ranked within the top 5% of Graduating Class

Received Excellent Students Scholarship from Kanoon Farhangi Amoozesh Ghalamchi [2017-2019]

Best Representation in Iran Open 2018

Using Q-Learning and Other Algorithms in the Team Description Paper

League: Soccer 2D Simulation Team: KN2C

9th Place in the ACM/ICPC 2018 Competition

Asia Region Team: MSA

Qualified for ACM/ICPC Competitions Among K. N. Toosi University's Teams for 2016 and 2018

Received Full Tuition Fee Waiver Scholarship from K. N. Toosi University of Technology

Ranked within the top 1% of Iranian University Entrance Exam for Bachelor's Degree in Computer Engineering

SOCIAL CONNECT

github.com/amirhossein-hkh

instagram.com/amirhoseinhkh76

linkednd.com/in/amirhossein-hassankhani-020a5a167

RESEARCH INTERESTS

Reinforcement Learning

Computer Vision

Generative Adversarial Networks

Robotics

Computational Geometry

CERTIFICATES

OpenCV Workshop

20-Hour Workshop Held by IEEE

Iran Open 2018 International Competitions

Participation in Soccer 2D Simulation League

ACM/ICPC, Asia Region

Honorable Mention in ACM 2016 Competition

NasirCup 2017 International Competitions

Participation in Soccer 2D Simulation League

PROJECTS

SUPER RESOULTION LICENSE PLATE	THE BACHELOR'S THESIS In my bachelor's thesis, I decided to work on enhancing the quality of the license plate's image using deep learning.	CODE **In Progress**
DEEP Q-LEARNING FOR ATARI GAMES	Video games are a good benchmark for reinforcement learning algorithms. So, I decided to implement DQN for the Atari game Pong using Keras. The agent was trained using Google Colab and RGB images as input.	CODE **https://github.com/amirhossein-hkh/pong-dqn**
FACIAL EXPRESSION RECOGNITION	In this project, I used a convolutional neural network for training a model for facial expression recognition (sad,happy, angry, neutral, and surprised). The model was trained over the AffectNet and the FER2013.	CODE **https://github.com/amirhossein-hkh/facial-expression-recognition**
AUXILIARY CLASSIFIER GAN	Generative adversarial network is a great framework for generating images from datasets. However, it does not provide a way for customizing the output. So, in this project, I implemented AC-GAN to generated images belonging to the desired category.	CODE **https://github.com/amirhossein-hkh/Auxiliary-Classifier-GAN**
IMAGE COMPRESSION USING VORONOI DIAGRAM	In this project, I used the Voronoi diagram for compressing images. I found that the pixels around the edges are good choices for the diagram's sites.	CODE **https://github.com/amirhossein-hkh/Image-Compression-Voronoi**
WUMPUS WORLD	Wumpus environment is a world to show the worth of knowledge-base agents. So, in this project, I implemented an agent who can find its way to the goal. The code was implemented in Prolog.	CODE **https://github.com/brilacasck/wumpus-prolog**
ALGORITHMS IMPLEMENTATION	Knapsack Problem Minimum Spanning Tree Shortest Path Matching	CODE **https://github.com/amirhossein-hkh/Fractional-Knapsack**
LR PARSER IN COMPILER DESIGN	LR Parsers are bottom-up parsers used in compiler design. I implemented LR(0), SLR(1),CLR(1) and LALR(1)	CODE **https://github.com/amirhossein-hkh/LR-Parser**

JOB EXPERIENCES

TEACHING ASSISTANT

2019

ALGORITHM DESIGN COURSE

- Held recitation classes for solving challenging problems.
- Invigilated the midterm exam.
- Designed Project for the end of the semester
- Gave feedback to students about their projects and homework.

WEB DESIGNER

2018-2019

FREELANC PROJECT (COMMERCIAL WEBSITE)

WEBSITE DOMAIN

https://vornadecor.com

- Designed the front-end of the website
- Implemented the front-end with React and similar technologies
- Connecting the front-end to the back-end

RESEARCHER

2017-2018

KN2C ROBOTIC LAB (SOCCER 2D SIMULATION)

TEAM WEBSITE

http://Kn2c.aras.kntu.ac.ir/rcss2d

- Cofounded the soccer 2D simulation team in the KN2C lab
- Created documentation for server and base
- Implemented artificial intelligence algorithms
- Worked with neural network and q-learning
- Participated in the monthly meetings with supervisor

MACHINE LEARNING

REINFORCEMENT LEARNING

Actor Critic ,Q-Learning, SARSA, REINFORCE, Monte Carlo, TD Learning, Eligibility Traces, Deep Deterministic Policy Gradient, Normalized Advantage Functions, …

SUPERVISED LEARNING

Fully Connected Neural Networks, Convolutional Neural Networks, Recurrent neural network, Haar Cascades, Support Vector Machines, …

FRAMEWORKS AND LIBRARIES

KERAS

PYTORCH

TENSORFLOW

OPENAI GYM

HALF FIELD OFFENCE

WEB DEVELOPMENT

FRONT-END

REACT

JAVASCRIPT

HTML

CSS

MATERIAL-UI

BOOTSTRAP

BACK-END

EXPRESS JS

PHP

DJANGO

DATABASE

MYSQL

MONGODB

PROGRAMMING

LANGUAGES

PYTHON

JAVA

C/C++

VHDL

MATLAB

PROLOG

FRAMEWORKS AND LIBRARIES

OPENCV

NUMPY

MATPLOTLIB

CUDA

SCIPY

SCIKIT-LEARNING

LANGUAGE PROFICIENCY

ENGLISH — **IELTS: 8**

LISTENING: 9 READING: 8.5 SPEAKING: 7 WRITING: 6.5

GRE

WILL BE TAKEN ON 11 NOV. 2019

FARSI — **NATIVE**

ARABIC — **NOVICE**

HOBBIES

Watching Movies and TV Series
Listening Music
Going to The GYM
Playing Video Games