Yalda Foroutan

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YaldaForoutan

Research Interests

Deep Learning • Computer Vision
Human-Computer Interaction

Education

M.Sc. | Electrical Engineering

University of Tehran | 2017 - 2020
GPA: 3.77/4 (17.22/20)
Thesis: Control of Computer Mouse Using Hand Gesture Recognition
Advisors: Ahmad Kalhor, Samad Sheikhaei

B.Sc. | Electrical Engineering (Control)

Amirkabir University of Technology (Tehran Polytechnic) | 2012 - 2017
Last-two-year GPA: 3.34/4 (16.64/20)
Thesis: Driver's Consciousness Level Analysis Using EEG Signals
Advisor: Mohammad A. Khosravi

Selected Courses

Deep Learning (20/20)
Computer Programming (C++) (18.6/20)
Computational Intelligence (18/20)
Linear Algebra (16.9/20)
Engineering Mathematics (19.25/20)

Skills

Programming Languages

Fluent: Python
Familiar: MATLAB • C/C++

Machine Learning Frameworks and Libraries

TensorFlow • Keras • OpenCV • PyTorch

Online Courses on Coursera

Neural Networks and Deep Learning (Certificate)
Improving Deep Neural Networks (Certificate)
Structuring Machine Learning Projects (Certificate)
Convolutional Neural Networks (Certificate)
Convolutional Neural Networks in TensorFlow
Introduction to TensorFlow
Sequence Models

Languages

English: IELTS Mock Test: 7/9 (Exam on 17th June)
Farsi: Native Speaker

References

Ahmad Kalhor *(akalhor@ut.ac.ir)*
Samad Sheikhaei *(sheikhaei@ut.ac.ir)*
Mohammadreza Kolahdouz *(kolahdouz@ut.ac.ir)*

Publication

Control of Computer Pointer Using Hand Gesture Recognition in Motion Pictures [arXiv]
Yalda Foroutan, Ahmad Kalhor, Saeid Mohammadi Nejati, Samad Sheikhaei
Under Submission in *Image and Vision Computing*

Research Experience

Research Assistant in University of Tehran | 2018 - 2020
Advanced Circuits for Data Communication Laboratory, Samad Sheikhaei
I have contributed to design an algorithm for computer pointer based on hand gesture recognition for Windows and Linux.

Honors

Offered Ph.D. Admission from University of Tehran | 2020
Recognized Exceptional Talent by National Organization for Development of Exceptional Talents (NODET) | 2005, 2008
Ranked 2nd in Iran Mathematics Olympiad PAYA | 2008
Ranked 1st in Abadan Mathematics Olympiad | 2006

Teaching Experience

Teaching Assistant at University of Tehran
Neural Networks and Deep Learning | Spring 2020
Designing projects, managing teaching assistant sessions
Course Responsible: Ahmad Kalhor
Teaching Assistant for Electronic 1 | Spring 2020, Fall 2019
Designing homework and quizzes, holding teaching assistant sessions
Course Responsible: Mohammadreza Kolahdouz
Teaching Assistant for Electronic 3 | Fall 2019
Grading homework
Course Responsible: Omid Shoaei

Selected Academic Projects

M.Sc. Thesis | University of Tehran

Control of Computer Mouse Using Hand Movement Detection
Collection of 6720 samples from 15 persons' hand gestures, built and optimized classification CNN model and similarity NN (TensorFlow in Google Colab)

B.Sc. Thesis | Amirkabir University of Technology

Driver's Consciousness Level Analysis Using EEG Signals
Optimized classification NN, SVM and kNN (MATLAB)

Neural Networks and Deep Learning (Python)

Design of a CNN Classifier for Fashion MNIST Dataset
Implementation of an RNN Network for Stock Market Prediction
Text Generation Based on Shakespeare's Book with an RNN Network
Development of GAN Networks on Fashion MNIST and CIFAR-10 Datasets
Using DCGAN, WGAN, ACGAN networks, improving generated images by GAN networks with one-sided label smoothing and adding noise

Other Projects

Simulation of Bees Algorithm (MATLAB)
Control of UGV Robot (C)
Design of a Controller for Router Robot (MATLAB)
Design of a Filter For Communication Systems (MATLAB)
Image Processing and Car Race Simulated (Codeblocks)