Tara Jadidi

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EDUCATION

Ferdowsi University of Mashhad, Iran— *B.Sc. in Computer Engineering*

2015 - present

GPA(current): 14.76/20 (B)

Noor High School - Diploma in Mathematics & Physics Discipline

GPA: 18.73/20 (A)

RESEARCH INTERESTS

Computational Creativity and Music Generation

Machine Learning

Computer Vision

Data Mining

RESEARCH EXPERIENCE

- **Computer Vision and Robotics Lab, Ferdowsi University of Mashhad, Iran**- *Research Assistant*

  September 2018 - PRESENT

  - Computer Vision and Machine Learning tasks, including
    - Simpsons' face detection using color histograms and morphological operations
    - Prediction of financial markets using CNNs on candlestick chart representations
    - Music genre classification in presence of noisy or limited data.
  - Under the supervision of Dr. Ehsan Fazl-Ersi
- **MetaCreation Lab, Vancouver, SFU University, SIAT** - *Intern/collaborator*

  April 2020 - PRESENT

  - Improving the user interface of an interactive music generation system, Apollo.
  - Under the supervision of Prof. Philippe Pasquier

TEACHING EXPERIENCE

- **Ferdowsi University of Mashhad,** Iran- *Teaching Assistant*
  - Course Name: “Computational Intelligence” presented by Dr. Ehsan Fazl-Ersi

    September 2019 - present
  - Course Name: “Computer Vision” presented by Dr. Ehsan Fazl-Ersi

    October 2020 - present
  - Course Name: “Introduction to Computer Programming” presented by Dr. Ehsan Fazl-Ersi

    February 2021 - present

AWARDS

-Finalist in the Sharif AI Challenge 2019

-Ranked among the top 1% in the university entrance exam in Math. and Eng., Iran 2015

-Semi-finalist in Iranian National Olympiad in Informatics, Iran 2014

-Ranked 1st in Arithland Mathematics Competition, Mashhad, Iran 2014

-Accepted to NODET Highschool (National Organization for Development of Exceptional Talents)

SKILLS

Programming Languages: Matlab, Python, C, Java, MySQL, JavaScript, Basic knowledge of TypeScript, Prolog, Verilog,C++

Other: Basic knowledge of Git, Linux

NOTABLE UNIVERSITY PROJECTS

Music Generation with Proper Classical Forms (Final Year Project - currently working on)

Under the supervision of Dr. Ehsan Fazl-Ersi

Designing a system that can learn the overall structure of a form from a dataset of symbolic music, and using a hierarchy of genetic algorithms attempts to generate a piece in that form. (Inspired by “Populations of Populations: Composing with Multiple Evolutionary Algorithms” by Arne Eigenfeldt and Philippe Pasquier and “Flexible Generation of Musical Form: Beyond Mere Generation” by Eigenfeldt et al.)

Smart Mirror — (Research Project - in collaboration with Machine Vision Lab, Ferdowsi University of Mashhad, Iran - currently working on)

Working on a virtual mirror that detects a customer’s facial key points, applies the selected makeup products in real time and in a realistic manner. The project also consists of an image quality improvement component in case a customer’s webcam is deficient.

Books to Movies — (Course Project: Computer Vision, group project)

Detecting and tracking books from a given dataset in a video, and displaying the adaption's trailers on the corresponding books' covers – robust against fast movements of camera and occlusion.

Camera coordinate estimation — (Course Project: Fundamentals of Computer Vision, group project)

Designed and implemented a system that given a dataset of images with coordinations, and a query image, finds pictures taken of the same place and estimating the geometrical transformations calculates the coordinates of the camera in the query image.

Music Genre Classification And Missing Notes Filler

Designed and implemented a system that aims to correctly identify the musical genre based on the beginning of a musical piece, using pitch information. Then removing a fraction of notes from the middle of some pieces unseen by the system, designed a new system that attempted to fill in the missing notes based on the predicted genre.

Mozart's Dice Music with GA

Designed and implemented a system that given a query song, uses the Genetic Algorithm to arrange the measures in Mozart's dice music to be similar to the query piece.

SELECTED COURSES

Computational Intelligence 20/20 (A)

Ranked 1st in a class of 44

Fundamentals of Data Mining 20/20 (A)

Ranked 1st in a class of 52

Computer Vision (From the MA Program) 19/20 (A)

Ranked 1st in a class of 20

Artificial Intelligence and Intelligent systems 17.30/20 (A)

Advanced Topics in Artificial Intelligence (From the MA Program) 17.25/20 (A)

LANGUAGES

Persian - native
English - fluent (IELTS Speaking 8, Listening 8, Reading 8.5, Writing 7. Overall 8)
German- A2 level (certificate of attendance from KAPITO Sprachschule)

HOBBIES

Reading (Goodreads account: Tara Jadidi - Iran (621 books))

Playing the piano (Upper Intermediate/ Early Advanced level) - Mozart enthusiast!

Playing Basketball (Was in high school team. ranked first in Mashhad 2013)