Ehsan Pajouheshgar

EDUCATION

PRESENT | Ph.D in Computer Science

Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

Image and Visual Representation Lab (IVRL) SUPERVISOR: Sabine Süsstrunk

SEPT. 2020 | GPA: 5.85/6 (via 34 credits)

JULY 2020 | B.Sc in Computer Engineering

Sharif University of Technology, Tehran, Iran

MAJOR: Software Engineering MINOR: Pure Mathematics

SEPT. 2015 | GPA: 19.40/20 (via 166 credits)

PUBLICATIONS

Authors: | Ehsan Pajouheshgar*, Yitao Xu*, Tong Zhang, Sabine Süsstrunk

Title: DyNCA: Real-time Dynamic Texture Synthesis Using Neural Cellular Automata

Conference: Proceedings of the IEEE/CVF Conference on Computer Vision

and Pattern Recognition (CVPR) 2023

Authors: | Yael Vinker, Ehsan Pajouheshgar, Jessica Y Bo, Roman Christian Bachmann,

Amit Haim Bermano, Daniel Cohen-Or, Amir Zamir, Ariel Shamir

Title: Clipasso: Semantically-aware object sketching

Journal: ACM Transactions on Graphics (TOG, SIGGRAPH) 2022

Authors: | Ehsan Pajouheshgar, Tong Zhang, Sabine Süsstrunk

Title: Optimizing Latent Space Directions for GAN-Based Local Image Editing

Conference: | IEEE International Conference on Acoustics, Speech

and Signal Processing (ICASSP) 2022

Authors: A. Khodadadi, A. Hosseini, Ehsan Pajouheshgar, F. Mansouri, & Hamid R. Rabiee

Title: ChOracle: A Unified Statistical Framework for Churn Prediction

Journal: | IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE) 2020

Authors: | Ehsan Pajouheshgar, Christoph H. Lampert

Title: Back to square one: probabilistic trajectory forecasting without bells and whistles

Conference: | Workshop on Modeling and Decision-Making in the Spatiotemporal Domain,

32nd Conference on Neural Information Processing Systems, (NeurIPS) 2018

Honors and Awards

Aug. 2022 Best Paper Award from SIGGRAPH 2022 Conference

JULY 2020 Ranked in top 5 in terms of GPA among 126 B.Sc. Computer Engineering students

of the Computer Engineering Department, 2015 beginners.

SEPT. 2019 Gold Medal in Iranian National Statistics Olympiad (Ranked 1st)

Oct. 2016 30th team among 2000+ teams in IEEEEXTREME Programming Competition

Aug. 2014 Gold Medal in 27th Iranian National Physics Olympiad

WORK EXPERIENCE

JULY 2020 | Data Scientist, Cafe Bazaar, Tehran, Iran.

Cafe Bazaar is by far the most popular app store among Iranians. I was working in the Computer Vision team in Balad (A map and navigation service like google maps).

My projects were focused on extracting information from our own

MAY 2019 KITTI-like Dataset, and extracting roads from satellite and aerial images.

SEPT. 2017 | Improving Recommendation System, Yektanet Online Advertising Plat-

form, Tehran, Iran

Yektanet is now one of the biggest online advertising platforms in Iran. Improving the recommendation system and designing an algorithm for

JUNE 2017 | categorizing Persian text and Persian websites.

RESEARCH EXPERIENCES (+ SUMMER SCHOOLS)

Aug. 2019 | The Cornell, Maryland, Max Planck Pre-doctoral Research School

Where: Max Planck Institute For Informatics, Saarbrücken, Germany Outstanding undergraduate and master's students were invited to learn about cutting-edge research in computer science.

The curriculum included lectures and interaction with faculty from participating institutions.

SEPT. 2018 | Probabilistic Trajectory Forecasting, Computer Vision and Machine

Learning Group, Institute of Science and Technology, Vienna, Austria I was working on trajectory forecasting problem, trying to predict the future of multi-modal trajectories based on a given initial segment. The idea was to use 3D-Convolutional Networks and probabilistic inference, to model the distribution of multi-modal trajectories.

JULY. 2018 | Project Adviser: Prof. Christoph H. Lampert

JULY. 2018 | Sequence Generation, Machine Learning Labratory, Sharif University

of Technology, Tehran, Iran

I was working on generating sequences of discrete tokens using GANs. Discreteness tokens make backpropagation infeasible, hence I was training the GAN using Policy-Gradient and Reinforcement Learning techniques.

MAY. 2018 | Project Adviser: Prof. M. Soleymani and E. Montahaei

JAN. 2018 | Churn Prediction Problem, Digital Media Laboratory, Sharif University

of Technology, Tehran, Iran

I was working on the Churn Prediction problem using recurrent neural networks and variational inference, trying to improve existing methods by adding a latent variable regarding users' loyalty.

Aug. 2017 | Project Adviser: Prof. Hamid R. Rabiee and A. Khodadadi

TEACHING EXPERIENCES

SPRING 2023 SPRING 2022	Teaching Assistant at EPFL, Lausanne, Switzerland Course: Computational Photography Prof. Sabine Süsstrunk Responsibility: Designing course projects and supervising students
FALL 2022	Course: Linear Algebra Prof. Nicolas Boumal Responsibility: Holding exercise sessions
FALL 2021	Course: Machine Learning Prof. Martin Jaggi Responsibility: Holding exercise sessions, designing the exam
SPRING 2019	Teaching Assistant at Sharif University of Technology, Tehran, Iran Course: Deep Learning Prof. Soleymani Responsibility: Teaching TensorFlow, designing homeworks
Spring 2019	Course: Stochastic Processes Prof. M. H. Rohban Responsibility: Holding exercise classes and designing homeworks
FALL 2018	Course: Machine Learning Prof. Soleymani Responsibility: Designing homeworks and exams
SPRING 2017	Course: Advanced Programming in Java Prof. Mazloumi Responsibility: Designing course project
FALL 2016	Course: Engineering Probability and Statistics Prof. A. Hosseini Responsibility: Holding exercise class and designing homeworks
DEC. 2016	Teaching Physics , Farzanegan 1 High School and Allame Helli High School, Tehran, Iran
Ост. 2014	Teaching Thermodynamic, Kinetic Theory, Electrodynamics and Experimental Physics to Olympiad students

LANGUAGES

PERSIAN AND TURKISH: Bilingual ENGLISH: Fluent

SKILLS

MATHEMATICS: Excellent knowledge in Probability and Statistics, Linear Algebra

Skilled in Partial Differential Equations, and Information Theory

COMPUTER SCIENCE: Excellent Knowledge in Machine Learning, and Deep Learning

Skilled in Algorithms and Data structures, and Computer Graphics

PROGRAMMING LANGUAGES Proficient in Python [PyTorch, Tensorflow]

AND FRAMEWORKS: Skilled in Java, C, C++, OpenGL & WebGL,

MUSIC: Playing Harmonica for 2 years, Playing Drums for 2 years,

Playing Guitar and Setar for 2 years, Vocal Training for 1 year.

PERSONAL DATA

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PUBLICATIONS: Google Scholar

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