

# Ehsan PAJOUHESHGAR

## PERSONAL DATA

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PUBLICATIONS: [Google Scholar](#)  
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WEB PAGE: <https://pajouheshgar.github.io>

## EDUCATION

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PRESENT	<b>Postdoc Researcher (Computer Science, and Applied Mathematics)</b> <b>Ecole Polytechnique Fédérale de Lausanne</b> , Lausanne, Switzerland Image and Visual Representation Lab (IVRL) - Prof. Sabine Süsstrunk
AUG. 2025	Chair of Statistical Field Theory (CSFT) - Prof. Clément Hongler
JULY 2025	<b>Ph.D in Computer Science</b> <b>Ecole Polytechnique Fédérale de Lausanne</b> , Lausanne, Switzerland Image and Visual Representation Lab (IVRL) SUPERVISOR: Sabine Süsstrunk
SEPT. 2020	GPA: 5.78/6 (via 36 credits)
JULY 2020	<b>B.Sc in Computer Engineering</b> <b>Sharif University of Technology</b> , Tehran, Iran MAJOR: Computer Engineering MINOR: Pure Mathematics
SEPT. 2015	GPA: 19.40/20 (via 166 credits)

## HONORS AND AWARDS

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NOV. 2025	<b>Distinguished Ph.D. Thesis Award</b> from EPFL
JULY. 2024	<b>Best Student Paper Award</b> from ALife 2024 Conference
DEC. 2023	<b>Teaching Assistance Excellence Award</b> From EPFL
AUG. 2022	<b>Best Paper Award</b> from SIGGRAPH 2022 Conference
OCT. 2020	<b>Doctoral Fellowship</b> for one year from EDIC EPFL
JULY 2020	<b>Ranked in top 5</b> in terms of GPA among 126 <b>B.Sc. Computer Engineering</b> students of the <a href="#">Computer Engineering Department</a> , 2015 beginners.
SEPT. 2019	<b>Gold Medal</b> in Iranian National Statistics Olympiad ( <b>Ranked 1<sup>st</sup></b> )
OCT. 2016	<b>30<sup>th</sup> team</b> among 2000+ teams in <a href="#">IEEEEXTREME Programming Competition</a>
AUG. 2014	<b>Gold Medal</b> in Iranian National Physics Olympiad

## LANGUAGES

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PERSIAN AND TURKISH: Bilingual

ENGLISH: Fluent

## WORK EXPERIENCE

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JULY 2020	<b>Data Scientist</b> , <a href="#">Cafe Bazaar</a> , Tehran, Iran. Cafe Bazaar is by far the most popular app store among Iranians. I was working in the Computer Vision team in <a href="#">Balad</a> (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.

## TEACHING EXPERIENCES

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SPRING 2024 2023 - 2022	<b>Teaching Assistant</b> at <a href="#">EPFL</a> , Lausanne, Switzerland <b>Course:</b> <a href="#">Computational Photography</a> Prof. Sabine Süsstrunk <b>Responsibility:</b> Designing course projects and supervising students
FALL 2022	<b>Course:</b> <a href="#">Linear Algebra</a> Prof. Nicolas Boumal <b>Responsibility:</b> Holding exercise sessions
FALL 2021	<b>Course:</b> <a href="#">Machine Learning</a> Prof. Martin Jaggi <b>Responsibility:</b> Holding exercise sessions, designing the exam
SPRING 2019	<b>Teaching Assistant</b> at <a href="#">Sharif University of Technology</a> , Tehran, Iran <b>Course:</b> <a href="#">Deep Learning</a> Prof. Soleymani <b>Responsibility:</b> Teaching TensorFlow, designing homeworks
SPRING 2019	<b>Course:</b> <a href="#">Stochastic Processes</a> Prof. M. H. Rohban <b>Responsibility:</b> Holding exercise classes and designing homeworks
FALL 2018	<b>Course:</b> <a href="#">Machine Learning</a> Prof. Soleymani <b>Responsibility:</b> Designing homeworks and exams
SPRING 2017	<b>Course:</b> <a href="#">Advanced Programming in Java</a> Prof. Mazloumi <b>Responsibility:</b> Designing course project
FALL 2016	<b>Course:</b> <a href="#">Engineering Probability and Statistics</a> Prof. A. Hosseini <b>Responsibility:</b> Holding exercise class and designing homeworks
DEC. 2016	<b>Teaching Physics</b> , <a href="#">Farzanegan 1 High School</a> and <a href="#">Allame Helli High School</a> , Tehran, Iran
OCT. 2014	Teaching Thermodynamic, Kinetic Theory, Electrodynamics and Experimental Physics to Olympiad students

## PUBLICATIONS

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- Authors:** Ehsan Pajouheshgar, Aditya Bhardwaj, Nathaniel Selub, Ethan Lake  
**Title:** [Exploring the Landscape of Non-Equilibrium Memories with Neural Cellular Automata](#)  
**Conference:** Arxiv preprint, Submitted Physical Review Letters (PRL)
- Authors:** Ehsan Pajouheshgar, Yitao Xu, Ali Abbasi, Alexander Mordvintsev, Wenzel Jakob, Sabine Süsstrunk  
**Title:** [Neural Cellular Automata: From Cells to Pixels](#)  
**Conference:** Arxiv preprint, working towards SIGGRAPH 2026
- Authors:** Yitao Xu, Tong Zhang, Ehsan Pajouheshgar, Sabine Süsstrunk  
**Title:** [Canonical Latent Representations in Conditional Diffusion Models](#)  
**Conference:** Arxiv preprint, submitted to ICLR 2025
- Authors:** Maria Larsson, Hodaka Yamaguchi, Ehsan Pajouheshgar, I-Chao Shen, Kenji Tojo, Chia-Ming Chang, Lars Hansson, Olof Broman, Takashi Ijiri, Ariel Shamir, Wenzel Jakob, Takeo Igarashi  
**Title:** [The Mokume Dataset and Inverse Modeling of Solid Wood Textures](#)  
**Journal:** ACM Transactions on Graphics (TOG, SIGGRAPH) 2025
- Authors:** Dongqing Wang, Ehsan Pajouheshgar, Yitao Xu, Tong Zhang, Sabine Süsstrunk  
**Title:** [Volumetric Temporal Texture Synthesis for Smoke Stylization using Neural Cellular Automata](#)  
**Journal:** The British Machine Vision Conference (BMVC) 2025
- Authors:** Ehsan Pajouheshgar, Yitao Xu, Sabine Süsstrunk  
**Title:** [NoiseNCA: Noisy Seed Improves Spatio-Temporal Continuity of Neural Cellular Automata](#)  
**Conference:** Artificial Life (ALife) 2024
- Authors:** Yitao Xu, Ehsan Pajouheshgar, Sabine Süsstrunk  
**Title:** [Emergent Dynamics in Neural Cellular Automata](#)  
**Conference:** Artificial Life (ALife) 2024
- Authors:** Ehsan Pajouheshgar\*, Yitao Xu\*, Alexander Mordvintsev, Eyvind Niklasson, Tong Zhang, Sabine Süsstrunk  
**Title:** [Mesh Neural Cellular Automata](#) (arXiv pre-print)  
**Journal:** ACM Transactions on Graphics (TOG, SIGGRAPH) 2024
- 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,  
32<sup>nd</sup> Conference on **Neural Information Processing Systems**, (**NeurIPS**) 2018