Amin Parchami-Araghi

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G-Scholar: Amin Parchami-Araghi
Address: Saarbrücken, Germany
Nationality: Iranian
Birthyear: 1999

Education

Aug 2024 –Now — PhD Student at **Max Planck Institute for Informatics, D2 Group**, under supervision of Prof. Dr. Bernt Schiele
working on neuro-explicit and inherently interpretable models.

Oct 2021 –Jul 2024 — MSc. Visual Computing, Saarland University, Germany | **GPA:** 1.2/1.0
Thesis: A Good Teacher Explains: Explanation-enhanced Knowledge Distillation | **Grade:** 1.0/1.0
Supervisor: Prof. Dr. Bernt Schiele **Reviewer:** Dr. Jan Eric Lenssen **Advisors:** Dr. Moritz Böhle & Sukrut Rao
Selected Courses: High-Level Computer Vision (1.0), Machine Learning (1.0), Image Acquisition Methods (1.3), CV&ML for Graphics (1.3), Realistic Image Synthesis (1.3) Advanced Image Analysis (1.7), Computer Graphics (1.7)

Sep 2017 –Jul 2021 — BSc. Computer Engineering, K. N. Toosi University of Technology, Iran | **GPA:** 18.7/20, Ranked **5th** in class of 75
Thesis: Monocular 3D Vehicle Detection **Supervisor:** Dr. Behrooz Nasihatkon | **Grade:** 20/20

Fields of Interests

- Neuro-explicit models, i.e. desiging models explicitly towards properties such as inherent interpretability (e.g. this paper).
- Analyzing representation spaces learned by vision-Language, multimodal, and self-supervised models (e.g. this paper)

Publications

Concept-based and Mechanistic Explanations

[under review] INSIGHT: Interpretable Semantic Hierarchies in Vision-Language Encoders
Kai Wittenmayer, Sukrut Rao, Amin Parchami-Araghi, Bernt Schiele, Jonas Fischer

[NeurIPS 2025] FaCT: Faithful Concept Traces for Explaining Neural Network Decisions
Amin Parchami-Araghi, Sukrut Rao, Jonas Fischer, Bernt Schiele

Model Guidance via Attributions

[ECCV 2024] Good Teachers Explain: Explanation-Enhanced Knowledge Distillation
Amin Parchami-Araghi, Moritz Böhle*, Sukrut Rao*, Bernt Schiele*

[ICCV 2023] Studying How to Efficiently and Effectively Guide Models with Explanations
Sukrut Rao, Moritz Böhle*, Amin Parchami-Araghi, Bernt Schiele*

Teaching Experience

At Saarland University, Germany

Summer 202(3-4-5) — Tutor & Teaching Assistant, **High-Level Computer Vision**, Instructor: Prof. Dr. Bernt Schiele
Winter 2025 — Teaching Assistant, **Explainable Machine Learning Seminar** , Instructor: Dr. Jonas Fischer
Winter 2022 — Tutor, **Computer Graphics**, Instructor: Prof. Dr.-Ing. Philipp Slusallek.

At K. N. Toosi University of Technology, Iran

Spring 2021 — Head Teaching Assistant, **Fundamentals of Computer Vision**, Instructor: Dr. Behrooz Nasihatkon
Fall 2020 — Teaching Assistant, **System Analysis and Design**, Instructor: Dr. Mehdi Esnaashari
Spring & Fall 2019 — (Head) Teaching Assistant, **Assembly and Machine Language**, Instructor: Dr. Behrooz Nasihatkon
Spring 2019 — Teaching Assistant, **Advanced Programming with Java**, Instructor: Dr. Mehdi Esnaashari
Fall 201(8-9) — (Head) Teaching Assistant, **Fundamentals of Programming**, Instructor: Dr. Behrooz Nasihatkon

Other

Summer 2019 — Course Instructor, **Programming with Java**, Alzahra University, Tehran, Duration: 30 Hours.

Research Experience

Apr 2022–Jul 2024 — Research Assistant (HiWi), **Max Planck Institute for Informatics, D2 Group**, Germany
Working on guiding models through attributions, under supervision of Dr. Moritz Böhle and Sukrut Rao

Industrial Experience

Feb 2021–Oct 2021 Computer Vision Engineer at **Sensifai**, Belgium, (remote)
Primarily optimizing video-processing pipelines, e.g. zero-copy transformations with custom C++ plugins.

Nov 2019–Sep 2020 Computer Vision Intern at **Rahbin Sanat Nasir**, Iran
Primarily enhancing detection and tracking performance of a low-cost Forward Collision Warning module.

Community Outreach and Awards

Co-organizer eXCV Workshop at ICCV 2025
Conference Reviewer ICLR 202(5-6), CVPR 202(5-6), NeurIPS 2025, ICML 2025(sub-reviewer)
Workshop Reviewer XAI4CV CVPR 202(4-5), eXCV ECCV 2024
Volunteer Experience Student Volunteer at ICCV 2023
Awards Dean's List, second year of Bachelor's study (2018) at K. N. Toosi University
Excellent Students Scholarship from Kanoon Farhangi Amooozesh during Bachelor's study
Talks Contributed talk about our paper 'FaCT' at the Theory of XAI Workshop @ ELLIS UnConference 2025

Technical Skills

Languages Python, C++20, Java 8, x86 Assembly
Libs. and Frameworks PyTorch and PyTorch-Lightning, Numpy, Tensorflow 1 & Keras, Scikit-learn, OpenCV, Pandas, Matplotlib, Seaborn, Gstreamer, Nvidia DeepStream, Nvidia VPI
Programming Object Oriented and Functional Programming, OOP Design Patterns
Essentials Docker, Git, Job Schedulers (e.g. Slurm & Condor) plus APIs such as *submitit*, WandB and Tensorboard, Agile Project Management with Scrum, Jira & Confluence, a bit of CMake and bash scripting, LaTeX
Linux Distros Ubuntu, Debian
Familiar Boards Jetson Xavier, Raspberry Pi 4
IDEs and Editors PyCharm, IntelliJ IDEA, GNU Emacs

Selected Projects

Relevant coursework projects

Aug 2022 Incorporating Diffusion Models (DDPM) in a CycleGAN framework | High-level Computer Vision, MSc
Jul 2022 CompressedSGD: a gradient discretization method (based on SignSGD) | Optimization for ML, MSc
Feb 2022 Rendering an original scene with our own ray tracing engine | Computer Graphics, MSc
Jul 2020 Persian form reader | Fundamentals of Computer Vision, BSc
Jan 2019 Image blending using x86 Assembly | Assembly and Machine Language, BSc
Jun 2021 2D Soccer Map: generating 2D bird-eye's view of the players | Designed by me for the CV course at KNTU, BSc

Hobby projects

Mar 2020 Magic Webcam | A virtual webcam for streaming processed images to any other application as a webcam source

Certificates

Sep-Nov 2019 Neural Networks and Deep Learning, Improving Deep Networks, Structuring ML Projects | `deeplearning.ai`
Sep, Jul 2019 Fundamentals of Deep Learning, Advanced Deep Learning | both from KNTU ACM Student Chapter
Oct 2018 Javacup Certified Java Programmer | Javacup Association

Languages

Farsi (Native), English (C1 | TOEFL iBT 106/120 in 2020), German (Intermediate, B2.1)

Hobbies

Playing Piano, (beach) Volleyball, Running & Cycling, Swimming, Nerdy YouTube videos (e.g. Vsauce)

Half-M.: 1:58"
5K: 23"