

MOHAMMAD MAHDI DERAKHSHANI

University of Amsterdam PhD Student in Computer Science

@ m.m.derakhshani@uva.nl

mmderakhshani

mmderakhshani

@mmderakhshani

mmderakhshani.github.io

EDUCATION

Ph.D. in Computer Science | Generative AI

VIS Lab | University of Amsterdam

Jan. 2020 – Aug. 2024 Amsterdam, Netherlands

- Advised by [Prof. Cees Snoek](#) and [Dr. Yuki M. Asano](#).
- Working on Multimodal models for text and image generation.
- Extracurricular Training:** Participation at Oxford machine Learning summer school (Aug. 2021).

M.Sc. in Computer Science | Computer Vision

MLCM Lab | University of Tehran

Sept. 2015 – Sept. 2018 Tehran, Iran

- Advised by [Prof. Babak Nadjar Araabi](#) and [Dr. Mohammad Amin Sadeghi](#).
- Worked on object detection and image comprehension.
- GPA:18.21/20 (Ranked 1st out of 15).**
- Earned direct admission to University of Tehran's AI Ph.D. program for outstanding academic success.

B.Sc. in Software Engineering | Image Processing

University of Semnan

Sept. 2011 – Sept. 2015 Seman, Iran

- GPA:18.58/20 (Ranked 1st out of 150)**
- Earned direct admission to University of Tehran's AI M.Sc. program for outstanding academic success.

WORK EXPERIENCE

Intern at Microsoft Research Cambridge (MSR)

June 2023 - Sept. 2023 Cambridge, UK

- Worked on text-to-image diffusion models.
- Worked on fine-tuning LLMs such as GPT3 and GPT3.5.

Intern at Samsung AI Cambridge (SAIC)

June 2022 - Oct. 2022 Cambridge, UK

- Worked on prompting large-scale language-image models for few-shot learning, domain adaptation, and robustness.
- Worked on federated learning on action recognition using prompt learning.

Collaboration with Allen Institute for AI (AI2)

Sept. 2017 - Sept. 2018 Remote

- Advised by [Dr. Mohammad Rastegari](#).
- Worked on a learning algorithm to boost YOLO's real-time object detection efficiency without sacrificing speed (at CVPR 2019).

SKILLS

Software Engineering

Python

Pytorch

Pytorch Lightning

HuggingFace

Ray

DeepSpeed

Distributed Training

Git

Slurm

AzureML

SELECTED PAPERS

- Derakhshani et al. (2023) [Unlocking Spatial Comprehension in Text-to-Image Diffusion Models](#). In: **Under Review**.
- Derakhshani et al. (2023) [Self-Supervised Open-Ended Classification with Small Visual Language Models](#). In: **Under Review**.
- Zehao Xiao, Jiayi Shen, Mohammad M. Derakhshani et al. (2023) [Any-Shift Prompting for Generalization over Distributions](#). In: **Under Review**.
- Derakhshani et al. (2023) [Bayesian Prompt Learning for Image-Language Model Generalization](#). In: **ICCV**.
- Tom van Sonsbeek*, Mohammad M. Derakhshani* et al. (2023) [Open-Ended Medical VQA Through Prefix Tuning of Language Models](#). In: **MICCAI - Oral**.
- Derakhshani et al. (2022) [LifeLonger: A Benchmark for Continual Disease Classification](#). In: **MICCAI**.
- Derakhshani et al. (2021) [Kernel Continual Learning](#). In: **ICML**.
- Derakhshani et al. (2019) [Assisted Excitation of Activations: A Learning Technique to Improve Object Detectors](#). In: **CVPR**.

TEACHING ACTIVITIES

- TA for Deep Learning I and II (2021, 2022, 2023), Machine Learning (2020), and Computer Vision (2021) - University of Amsterdam, Netherlands.
- Deep Learning Summer School (UTDLSS2018) - Instructor - ACM, University of Tehran, Iran.
- Deep Learning Summer School (UTDLSS2017) - Instructor - ACM, University of Tehran, Iran.
- Deep Learning Practical Workshop (2017) - Teaching Pytorch at IEEE Branch, University of Tehran, Iran.

REFERENCES

Prof. Cees Snoek

@ VIS Lab | Informatics Institute

✉ C.G.M.Snoek@uva.nl

University of Amsterdam, Netherlands

Dr. Yuki M. Asano

@ VIS Lab | Informatics Institute

✉ y.m.asano@uva.nl

University of Amsterdam, Netherlands

Dr. Victor Ruhle

@ Microsoft Research

✉ virueh@microsoft.com

Cambridge, United Kingdom