Mohammad Reza Taesiri

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EDUCATION

University of Alberta, Edmonton, Alberta, Canada
- Ph.D. in Software Engineering and Intelligent Systems — Sep 2021 – Present

Sharif University of Technology, Tehran, Tehran, Iran
- M.Sc. in Computer Software Engineering — Sep 2015 – Sep 2017

Amirkabir University of Technology, Tehran, Tehran, Iran
- B.Sc. in Pure Mathematics — Sep 2009 – Jun 2015

RESEARCH EXPERIENCE

La Forge, Ubisoft Montreal
- Research and Development Intern — Aug 2022 – Dec 2022
  - Supervisor: Dr. Sarra Habchi
  - Focus: Robustness of Foundation Models, Image and Video Retrieval

ASGAARD Lab, University of Alberta
- Graduate Research Assistant — Sep 2021 – Present
  - Supervisor: Prof. Cor-Paul Bezemer
  - Focus: Foundation Models for Video Games, Robustness

Nguyen Lab, Auburn University
- Visiting Researcher — Mar 2021 – Present
  - Supervisor: Prof. Anh Nguyen
  - Focus: Robust and Explainable Machine Learning

PUBLICATIONS

CONFERENCES

[1] Mohammad Reza Taesiri, Giang Nguyen, Sarra Habchi, Cor-Paul Bezemer, and Anh Nguyen – "ImageNet-Hard: The Hardest Images Remaining from a Study of the Power of Zoom and Spatial Biases in Image Classification" in *Thirty-Seventh Annual Conference on Neural Information Processing Systems (NeurIPS 2023)*

[2] Mohammad Reza Taesiri*, Giang Nguyen*, and Anh Nguyen (* Denotes Equal Contribution) – "Visual correspondence-based explanations improve AI robustness and human-AI team accuracy." in *Thirty-sixth Annual Conference on Neural Information Processing Systems (NeurIPS 2022)*

[3] Finlay Macklon, Mohammad Reza Taesiri, Markos Viggiato, Stefan Antoszko, Natalia Romanova, Dale Paas, and Cor-Paul Bezemer – "Automatically Detecting Visual Bugs in HTML5 <canvas> Games." in *International Conference on Automated Software Engineering (ASE 2022)*

[4] Mohammad Reza Taesiri, Finlay Macklon, and Cor-Paul Bezemer – "CLIP meets GamePhysics: Towards bug identification in gameplay videos using zero-shot transfer learning." in *The Mining Software Repositories conference (MSR 2022)*

PREPRINTS

[5] Mohammad Reza Taesiri, Finlay Macklon, Yihe Wang, Hengshuo Shen, and Cor-Paul Bezemer – "Large Language Models are Pretty Good Zero-Shot Video Game Bug Detectors." in *Arxiv Preprint*

[6] MohammadAmin Fazli*, Ali Owfi*, and Mohammad Reza Taesiri* (* Denotes Equal Contribution) – "A Data-Driven Analysis on Nft Auctions: Assessment, Opportunities and Fraudulent Activities." in *Arxiv Preprint*

JOURNALS

[7] Mohammad Reza Taesiri, Moslem Habibi and MohammadAmin Fazli – "A Video Game Testing Method Utilizing Deep Learning" in *Journal on Computer Science and Engineering (JCSE 2021)*

AWARDS & SCHOLARSHIPS
- Alberta Graduate Excellence Scholarship (AGES) 2023
- NeurIPS 2022 Scholar Award

		2022
	▪ Graduate Research Assistant, University of Alberta	2021
	▪ Ranked 10th, National entrance exam in Software Engineering, Iran	2015
	▪ Ranked 11th, National entrance exam in Algorithms and Theory of Computation, Iran	2015

PROJECTS & DEMOS & DATASETS

ImageNet-Hard, Hugging Face Datasets
- ▪ Introduced a challenging dataset to rigorously assess the robustness of diverse vision models. Apr 2023

Claude Reads ArXiv, Hugging Face Space
- ▪ Harnessing the power of the *Claude-v1.3-100k* to answer questions about academic papers.   Apr 2023

Intelligent Image Captioner, Hugging Face Spaces
- ▪ Empowering ChatGPT with the ability to see and interpret images, using Detic.   Dec 2022

CLIP Meets GamePhysics, Hugging Face Spaces
- ▪ Built a CLIP-based video retrieval system for video games.   Mar 2022

The GamePhysics Dataset, Hugging Face Datasets
- ▪ A dataset of video game bugs   Jan 2022

OTHER WORK EXPERIENCE

3-Dish, Karaj, Tehran, Iran
- ▪ Co-Founder   2019 – 2021
  - • Successfully developed a unique culinary experience in the Metaverse, replicating popular dishes with an authentic appearance.

Fanafzar Sharif Game Studio, Tehran, Tehran, Iran
- ▪ Summer Intern - Game Development   Jun 2014 – Sep 2014
  - • Developed in-game level editors for mobile platforms, enhancing user experience and engagement.
  - • Successfully created a proof of concept using the Unity game engine, showcasing the functionality and potential of the level editor.

TEACHING EXPERIENCE

Sharif University of Technology, Tehran, Tehran, Iran
- ▪ Teaching Assistant - Head   Jan 2016 – Jun 2016
  - • Led a team of teaching assistants for the Discrete-Event Simulation course
  - • Collaborated with the professor to develop lesson plans, assess students' performance

CERTIFICATES & ONLINE COURSES

- ▪ Deep Reinforcement Learning Nanodegree, Udacity   2020
- ▪ Reinforcement Learning Specialization, Coursera, University of Alberta   2020
- ▪ Computational Neuroscience, Coursera, University of Washington   2020
- ▪ Deep Learning Specialization, Coursera, DeepLearning.AI   2018
- ▪ Image and video processing, Coursera, Duke University   2014
- ▪ Heterogeneous Parallel Programming, Coursera, University of Illinois Urbana-Champaign   2014
- ▪ Programming Languages, University of Washington   2014

SKILLS

Machine Learning: PyTorch, Tensorflow, Tensorflow.js, Keras, Numpy, JAX
Programming: Python, C#, Java, C/C++, Swift, Objective-C, Scheme, Racket, ML, CUDA
Other Technologies: Docker and Kubernetes, Node, MongoDB, Neo4j, Wolfram Mathematica, Solidity
Game Engines: Unity, Unreal Engine

HOBBIES

Photogrammetry, Digital Photography, Hiking

REFERENCES

- ▪ **Dr. Cor-Paul Bezemer**
  Associate Professor, University of Alberta
  bezemer@ualberta.ca

- ▪ **Dr. Anh Nguyen**
  Assistant Professor, Auburn University
  anhnguyen@auburn.edu

- ▪ **Dr. Marek Reformat**
  Professor, University of Alberta
  reformat@ualberta.ca