

# Mohammad Reza Taesiri

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## CURRENT POSITION

**University of Alberta**, Edmonton, Canada

- Post-Doctoral Fellow
- Focus: Foundation Models for Video Games

Oct 2024 – Present

## EDUCATION

**University of Alberta**, Edmonton, Canada

- Ph.D. in Software Engineering and Intelligent Systems
- Thesis: Leveraging Foundation Models for Video Game Quality Assurance

Sep 2021 – Sep 2024

**Sharif University of Technology**, Tehran, Iran

- M.Sc. in Computer Software Engineering

Sep 2015 – Sep 2017

**Amirkabir University of Technology**, Tehran, Iran

- B.Sc. in Pure Mathematics

Sep 2009 – Jun 2015

## RESEARCH EXPERIENCE

**La Forge**, Ubisoft Montreal

- Research and Development Intern
- Supervisor: Dr. Sarra Habchi
- Focus: Robustness of Foundation Models, Image and Video Retrieval

Aug 2022 – Dec 2022

**ASGAARD Lab**, University of Alberta

- Graduate Research Assistant
- Supervisor: Prof. Cor-Paul Bezemer
- Focus: Foundation Models for Video Games

Sep 2021 – Present

**Nguyen Lab**, Auburn University

- Visiting Researcher
- Supervisor: Prof. Anh Totti Nguyen
- Focus: Vision Language Models

Mar 2021 – Present

## PUBLICATIONS

### CONFERENCES

- [1] Mohammad Reza Taesiri, and Cor-Paul Bezemer – “VideoGameBunny: Towards vision assistants for video games” in *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision 2025 (WACV 2025)* **Oral Presentation**.
- [2] Rahmanzadehgervi, Pooyan, Logan Bolton, Mohammad Reza Taesiri, and Anh Totti Nguyen – “Vision language models are blind” in *Proceedings of the Asian Conference on Computer Vision 2024 (ACCV 2024)* **Oral Presentation**.
- [3] Mohammad Reza Taesiri, Tianjun Feng, Anh Nguyen and Cor-Paul Bezemer – “GlitchBench: Can large multimodal models detect video game glitches?” in *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition 2024. (CVPR 2024)*
- [4] 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)*
- [5] 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)*
- [6] Finlay Macklon, Mohammad Reza Taesiri, Markos Viggiano, 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)*
- [7] 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)*

## JOURNALS

- [1] Giang Nguyen, Valerie Chen, Mohammad Reza Taesiri, and Anh Totti Nguyen – “PCNN: Probable-Class Nearest-Neighbor Explanations Improve Fine-Grained Image Classification Accuracy for AIs and Humans” in *Transactions on Machine Learning Research (TMLR)*
- [2] Mohammad Reza Taesiri, Finlay Macklon, Sarra Habchi, and Cor-Paul Bezemer – “Searching bug instances in gameplay video repositories” in *IEEE Transactions on Games (ToG 2024)*
- [3] 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)*

## WORKSHOPS

- [1] Giang Nguyen, Mohammad Reza Taesiri, Sunnie S. Y. Kim, and Anh Totti Nguyen – “Allowing humans to interactively guide machines where to look does not always improve a human-AI team’s classification accuracy.” in *The 3rd Explainable AI for Computer Vision (XAI4CV) Workshop (CVPR 2024)*

## PREPRINTS

- [1] Jonathan Roberts, Mohammad Reza Taesiri, and others – “ZeroBench: An Impossible Visual Benchmark for Contemporary Large Multimodal Models.” in *Arxiv Preprint*
- [2] Tin Nguyen, Logan Bolton, Mohammad Reza Taesiri, and Anh Totti Nguyen – “HoT: Highlighted Chain of Thought for Referencing Supportive Facts from Inputs.” in *Arxiv Preprint*
- [3] 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*
- [4] 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*

## AWARDS & SCHOLARSHIPS

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|---|------|
| ▪ Alberta Innovates Graduate Student Scholarships program (GSS)                     | 2024 |
| ▪ Alberta Graduate Excellence Scholarship (AGES)                                    | 2023 |
| ▪ Upper Bound Talent Bursary  | 2023 |
| ▪ NeurIPS 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 |

## INVITED TALKS & ACTIVITIES

**Foundation Models for Video Game Quality Assurance**, 2024  
Honours Seminar, University of Alberta, Edmonton, Canada

**A Brief Tutorial on Large Language Models**, 2023  
ISAIC, University of Alberta, Edmonton, Canada

**Zoom Is What You Need: An empirical study of the power of zoom and spatial biases in image classification**, 2023  
Samsung SAIT AI Lab (SAIL), Montreal, Québec, Canada

## PROJECTS & DATASETS

**GlitchBench**, Hugging Face Datasets

▪ A benchmark to evaluate large multimodal models for the task of video game testing.	Dec 2023
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**ImageNet-Hard**, Hugging Face Datasets

▪ Introduced a challenging dataset to rigorously assess the robustness of diverse vision models.	Apr 2023
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**Claude Reads ArXiv**, Hugging Face Space

▪ Harnessing the power of the <i>Claude-v1.3-100k</i> to answer questions about academic papers.	Apr 2023
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**Intelligent Image Captioner**, Hugging Face Spaces

▪ Empowering ChatGPT with the ability to see and interpret images, using Detic.	Dec 2022
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**CLIP Meets GamePhysics**, Hugging Face Spaces

▪ Developed a CLIP-based video retrieval system for video games.	Mar 2022
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**The GamePhysics Dataset**, Hugging Face Datasets

	<ul style="list-style-type: none"> <li>▪ A dataset of video game bugs</li> </ul>	Jan 2022
<b>OTHER WORK EXPERIENCE</b>	<p><b>3-Dish</b>, Karaj, Tehran, Iran</p> <ul style="list-style-type: none"> <li>▪ Co-Founder</li> <li>• Developed a unique culinary experience in the Metaverse, replicating popular dishes to create an authentic appearance.</li> </ul> <p><b>Fanafzar Sharif Game Studio</b>, Tehran, Tehran, Iran</p> <ul style="list-style-type: none"> <li>▪ Summer Intern - Game Development</li> <li>• Developed in-game level editors for mobile platforms, enhancing user experience and engagement.</li> <li>• Successfully created a proof of concept using the Unity game engine, showcasing the functionality and potential of the level editor.</li> </ul>	2019 – 2021 Jun 2014 – Sep 2014
<b>TEACHING EXPERIENCE</b>	<p><b>University of Alberta</b>, Edmonton, Alberta, Canada</p> <ul style="list-style-type: none"> <li>▪ Teaching Assistant</li> <li>• Served as a teaching assistant for multiple courses.</li> <li>• ECE 447 - Data Analysis and Machine Learning for Engineers - Winter 2024</li> <li>• ECE 342 - Probability for Electrical and Computer Engineers - Winter 2024</li> <li>• ECE 325 - Object-Oriented Software Design - Fall 2023</li> <li>• ECE 321 - Software Requirements Engineering - Fall 2023</li> </ul> <p><b>Sharif University of Technology</b>, Tehran, Iran</p> <ul style="list-style-type: none"> <li>▪ Teaching Assistant - Head</li> <li>• Led a team of teaching assistants in the Discrete-Event Simulation course.</li> <li>• Collaborated with the professor to develop lesson plans, assess students' performance</li> </ul>	Sep 2023 – Present Jan 2016 – Jun 2016
<b>CERTIFICATES &amp; ONLINE COURSES</b>	<ul style="list-style-type: none"> <li>▪ Deep Reinforcement Learning Nanodegree, Udacity</li> <li>▪ Reinforcement Learning Specialization, Coursera, University of Alberta</li> <li>▪ Computational Neuroscience, Coursera, University of Washington</li> <li>▪ Deep Learning Specialization, Coursera, DeepLearning.AI</li> <li>▪ Image and video processing, Coursera, Duke University</li> <li>▪ Heterogeneous Parallel Programming, Coursera, University of Illinois Urbana-Champaign</li> <li>▪ Programming Languages, University of Washington</li> </ul>	2020 2020 2020 2018 2014 2014 2014
<b>SKILLS</b>	<p><b>Machine Learning:</b> PyTorch, Keras, JAX</p> <p><b>Programming:</b> Python, C#, Java, C/C++, Swift, Objective-C, Scheme, Racket, ML, CUDA</p> <p><b>Other Technologies:</b> Docker and Kubernetes, NodeJS, MongoDB, Neo4j, Wolfram Mathematica</p> <p><b>Game Engines:</b> Unity, Unreal Engine</p>	
<b>HOBBIES</b>	Photogrammetry, Digital Photography, Hiking	
<b>REFERENCES</b>	<ul style="list-style-type: none"> <li>▪ <b>Dr. Cor-Paul Bezemer</b> Associate Professor, University of Alberta bezemer@ualberta.ca</li> <li>▪ <b>Dr. Anh Totti Nguyen</b> Associate Professor, Auburn University anhnguyen@auburn.edu</li> <li>▪ <b>Dr. Marek Reformat</b> Professor, University of Alberta reformat@ualberta.ca</li> </ul>	

[CV compiled on 2025-03-14]