

Shayan Jalalipour

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Summary

Skilled professional with advanced skills in machine learning and computer science research, working primarily as a research assistant. Developed and applied cutting-edge algorithms to enhance projects in computer vision and generative models, achieving recognition with published state-of-the-art research. Aims to leverage expertise in machine learning and generative modelling techniques to drive innovative solutions and operational success in highly technical environments.

Education

Portland State University <i>PhD, Computer Science with a focus in Machine Learning, Reinforcement Learning, and Computer Vision</i>	2022 - 2026
Portland State University <i>Master's Degree, Computer science major, focus in Machine Learning</i>	2020 - 2022
Portland State University <i>Bachelor's Degree, Computer science Major</i>	2016 - 2020

Work experience

Portland State University <i>Machine Learning Research Assistant</i> Conducted NSF-funded interdisciplinary research by applying and evaluating new machine learning algorithms using Python, PyTorch and other advanced ML tools to publish state-of-the-art research in computer vision, generative models, and ML.	Jun 2022 - Present
Portland State University <i>Teaching Assistant</i> Facilitated learning in computer science courses such as Reinforcement Learning, Virtual Reality, and Natural Language Processing by providing clear documentation and effective communication, supporting both students and professors.	Sep 2021 - Present
Vacasa <i>Data Scientist</i> Collaborated with a team developing data analysis tools, creating and working with data pipelines, automating geospatial data analysis, as well as researching further applications of machine learning and AI algorithms.	Jun 2019 - Sep 2019
Portland State University <i>IT User Support</i> Part of Maseeh college of engineering IT empowering user productivity in linux / ubuntu / redhat / windows environments. Supporting students, faculty, and staff with network connectivity and management, account security, and miscellaneous IT needs.	Sep 2016 - Sep 2017

Skills

- **Languages:** Python, SQL, C++, C, Java, Javascript, Scala, Prompt Engineering
- **Libraries and Frameworks:** Pytorch, CUDA, Tensorflow, Pandas, NumPy, Kubernetes, Docker, SKLearn, HuggingFace, GNNs
- **Platforms and Services:** Git, GCP, AWS, GIS, MySQL, MongoDB, OS-terminal coding
- **Techniques & Expertise:** Machine Learning, NLP, Statistical Knowledge, Data Visualization, Computer Vision, Deep Learning, Node.js, Transformers, Diffusion Models, Clustering, Multi-Modal Models, Reinforcement Learning, Large Language Models, LLMs, Data Mining

Publications

- Deep Learning-Based Spatial Detection of Drainage Structures Using Advanced Object Detection Methods..2023 Fifth International Conference on Transdisciplinary AI (TransAI)
- Noisy-Defense Variational Auto-Encoder (ND-VAE): An Adversarial Defense Framework to Eliminate Adversarial Attacks..2023 Fifth International Conference on Transdisciplinary AI (TransAI)
- OSA-Diff: An Origin Sampling Based Adversarial Attack Using Diffusion Models..2025 19th International Conference on Semantic Computing (ICSC)