

## OBJECTIVE

- Aiming for Machine Learning related position including Research Scientist, Applied Researcher and Machine Learning Engineer. A strong interest in Computer Vision related topics and projects. A solid background in CS and sufficient experiences in Machine Learning research. Publication in top Computer Vision conference.

## EDUCATION

### MSc in Applied Computing GPA:4.0/4.0

September 2022 – January 2024 (expected)

University of Toronto, Department of Computer Science

Courses: Introduction to Machine Learning (A+), Computational Imaging (A+), Neural Networks and Deep Learning (A+), Natural Language Computing (A+)

### B.S. in Computer Science and Technology GPA:3.77/4.0

September 2018 – June 2022

Beijing Institute of Technology, School of XuTeli

## EXPERIENCE

### ModiFace, Toronto, Canada

May 2023 – December 2023

Machine Learning Intern

- Conducted literature review, reproduced existing methods, and made research proposals.
- Proposed a novel self-supervised facial landmark estimation method and implemented it with PyTorch.
- Carried out extensive experiments and demonstrated our proposed method outperforming existing SOTA by 20%~44% on landmark matching and 9%~15% on landmark detection.
- Composed a conference paper which is accepted to CVPR 2024 as the first author.

### Beijing Institute of Technology, Beijing, China

December 2021 – May 2022

Undergraduate Graduation Design: *Research on Domain Generalization Image Classification Based on Gaussian Kernel*

- Proposed a novel method addressing the domain generalization image classification problem by utilizing gaussian kernel to extract the high-frequency information from the image, and implemented this method with PyTorch.
- Achieved 6.2% and 4.52% mean classification accuracy improvement on Digits-DG and PACS dataset respectively compared with the baseline method, which were competitive results compared to state-of-the-art methods.
- Wrote a thesis and defended it with five professors from the Department of Computer Science.

### North Carolina State University, U.S.

July 2021 – August 2021

Remote Research Intern: *Balancing real-world inverted pendulums via virtual training with RL*

- Implemented Policy Gradient, Actor Critic, and Proximal Policy Optimization with PyTorch and successfully balanced the single inverted pendulum in a modified gym environment which provided a more realistic simulation of physical laws.
- Successfully balanced the double inverted pendulum by using Actor Critic in a modified gym environment.
- Directly applied our trained model in the gym to balance a real single inverted pendulum in the lab successfully.

## PUBLICATION

Kejia Yin, Varshanth Rao, Ruowei Jiang, Xudong Liu, Parham Aarabi, David B. Lindell, "SCE-MAE: Selective Correspondence Enhancement with Masked Autoencoder for Self-Supervised Landmark Estimation", in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.

## TECHNICAL SKILLS

- Programming Languages: C, Java, Python (i.e. PyTorch), Matlab