XINGZHE HE

xingzhe@cs.ubc.ca

Homepage

EDUCATION

University of British Columbia, Canada *2020-present*
Ph.D. in Computer Science
advised by Professor Helge Rhodin

Rutgers University, USA *2017-2019*
Master of Science in Data Science

University of Liverpool, UK *2015-2017*
Bachelor of Science with Honors in Mathematics with Finance

Xi'an Jiaotong-Liverpool University *2013-2015*
Bachelor of Economics with Honors in Financial Mathematics

PUBLICATIONS

1. Few-shot Geometry-Aware Keypoint Localization [pdf] [project]
   Xingzhe He, Gaurav Bharaj, David Ferman, Helge Rhodin, Pablo Garrido
   CVPR 2023

2. AutoLink: Self-supervised Learning of Human Skeletons and Object Outlines by Linking Keypoints [pdf] [project]
   Xingzhe He, Bastian Wandt, Helge Rhodin
   NeurIPS 2022 (Spotlight $\sim$ 3% acceptance rate)

3. GANSeg: Learning to Segment by Unsupervised Hierarchical Image Generation [pdf]
   Xingzhe He, Bastian Wandt, Helge Rhodin
   CVPR 2022

4. LatentKeypointGAN: Controlling GANs via Latent Keypoints [pdf] [project]
   Xingzhe He, Bastian Wandt, Helge Rhodin
   CVPRW 2022

5. Symplectic Neural Networks in Taylor Series Form for Hamiltonian Systems [pdf] [project]
   Yunjin Tong*, Shiying Xiong*, **Xingzhe He**, Guanghan Pan, Bo Zhu
   Journal of Computational Physics

6. Nonseparable Symplectic Neural Networks [pdf] [project]
   Shiying Xiong, Yunjin Tong, **Xingzhe He**, Shuqi Yang, Cheng Yang, Bo Zhu
   ICLR 2021

7. Learning Physical Constraints with Neural Projections [pdf] [project]
   Shuqi Yang, **Xingzhe He**, Bo Zhu
   NeurIPS 2020

8. AdvectiveNet: An Eulerian-Lagrangian Fluidic Reservoir for Point Cloud Processing [pdf]
   Xingzhe He, Helen L. Cao, Bo Zhu
   ICLR 2020

9. Soft Multicopter Control using Neural Dynamics Identification [pdf] [video]
   Yitong Deng, Yaorui Zhang, **Xingzhe He**, Shuqi Yang, Yunjin Tong, Michael Zhang, Daniel M. DiPietro, Bo Zhu
   CoRL 2020

EXPERIENCE

Research Intern Jun 2022 - Nov 2022
Flawless AI, advised by Pablo Garrido and Gaurav Bharaj *Santa Monica, CA, USA*

· Detect 3D keypoint from single static images with few-shot 2D keypoint annotations.
· Model mouth area with sparse 3D keypoints.

Visiting Researcher Jan 2019 - Aug 2020
Dartmouth College, advised by Professor Bo Zhu *Hanover, NH, USA*

· Applied deep learning to solve physics problems, including solving PDEs and predicting interaction between objects and particles.
· Applied knowledge of physics to improve deep learning and make neural networks more interpretable.
· Gave tutorials on computer vision, and neural-based physics to visiting students and undergrad students.

Research Intern Jun - Aug 2017
Satsafe *Liverpool, UK*

· Developed a machine learning-based scoring system to determine the insurance cost based on GPS trajectories of drivers.

Research Intern Jul - Nov 2016
Barnett Waddingham *Liverpool, UK*

· Developed a risk model for universities to determine the insurance cost.

PROGRAMMING LANGUAGES

Python