

# Yunxiang Zhang

📍 370 Jay St, Brooklyn, NY 11201, USA    ✉ [yunxiang.zhang@nyu.edu](mailto:yunxiang.zhang@nyu.edu)    🏠 <https://yunxiangzhang.github.io>

## RESEARCH INTERESTS

My research interests are at the intersection of virtual/augmented reality, human-computer interaction, and computational photography/imaging. I enjoy combining theoretical insights from physical, biological, and cognitive sciences with machine learning tools to solve challenging real-world problems.

## EDUCATION

<b>New York University</b> <i>Doctor of Philosophy in Computer Science and Engineering</i> <b>Advisor:</b> Prof. Qi Sun	Brooklyn, NY 11201, USA Sep 2022 – Present
<b>The Chinese University of Hong Kong</b> <i>Master of Philosophy in Information Engineering</i> <b>Thesis:</b> Towards Physically Realistic Human-Environment Interaction in Virtual and Augmented Reality <b>Advisor:</b> Prof. Dahua Lin	Hong Kong SAR, China Aug 2020 – Aug 2022
<b>Shanghai Jiao Tong University</b> <i>Master of Engineering in Electronics and Communication Engineering</i> <b>Thesis:</b> Similarity-Based Approach to Neural Network Pruning <b>Advisor:</b> Prof. Bingbing Ni	Shanghai, China Sep 2017 – Mar 2020
<b>École Polytechnique</b> <i>Diplôme d'Ingénieur in Computer Science (double-degree program between SJTU and EP)</i>	Palaiseau 91128, France Apr 2016 – Aug 2018
<b>Shanghai Jiao Tong University</b> <i>Bachelor of Engineering in Information Engineering</i>	Shanghai, China Sep 2013 – Aug 2017

## EXPERIENCE

<b>Research Intern, Vector Institute</b> <i>Supervisor: Prof. Nicolas Papernot</i>	Toronto, ON M5G 1M1, Canada Mar 2020 – Jun 2020
<b>Research Intern, LTCI Télécom Paris</b> <i>Supervisor: Prof. Samy Blusseau, Prof. Santiago Velasco-Forero, Prof. Isabelle Bloch, and Prof. Jesús Angulo</i>	Paris 75013, France Apr 2018 - Aug 2018
<b>Software Development Intern, SNCF</b> <i>Supervisor: Loïc Hamelin</i>	Saint Denis 93200, France Jun 2017 - Sep 2017

## PUBLICATIONS

- **Modeling and Optimizing Neck Muscle Comfort in VR/AR.** Yunxiang Zhang, Kenneth Chen, Qi Sun. Under review 2023
  - **Force-Aware Interface via Electromyography for Natural VR/AR Interaction.** Yunxiang Zhang, Benjamin Liang, Boyuan Chen, Paul M. Torrens, S. Farokh Atashzar, Dahua Lin, Qi Sun. ACM Transactions on Graphics (SIGGRAPH Asia 2022) [Paper](#)
  - **CaPC Learning: Confidential and Private Collaborative Learning.** Christopher A. Choquette-Choo\*, Natalie Dullerud\*, Adam Dziedziec\*, Yunxiang Zhang\*, Somesh Jha, Nicolas Papernot, Xiao Wang. International Conference on Learning Representations (ICLR 2021) [Paper](#)
  - **Exploiting Channel Similarity for Network Pruning.** Chenglong Zhao, Yunxiang Zhang, Bingbing Ni. IEEE Transactions on Circuits and Systems for Video Technology 2023 [Paper](#)
  - **Max-plus Operators Applied to Filter Selection and Model Pruning in Neural Networks.** Yunxiang Zhang, Samy Blusseau, Santiago Velasco-Forero, Isabelle Bloch, Jesus Angulo. International Symposium on Mathematical Morphology and Its Application to Signal and Image Processing (ISMM 2019) [Paper](#)
- \* Equal contributions, authors ordered alphabetically.

## AWARDS

<b>New York University</b>	SoE Fellowship (2022 – 2023)
<b>The Chinese University of Hong Kong</b>	Postgraduate Scholarship (2020 – 2022)
<b>Shanghai Jiao Tong University</b>	SPEIT Academic Excellence Scholarship (2015 – 2016)
<b>Shanghai Jiao Tong University</b>	Ardian Scholarship (2014 – 2015)

## PROFESSIONAL SERVICES

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Reviewer for AAAI 2021, IEEE ISMAR 2022, IEEE VR 2023

## TEACHING EXPERIENCE

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Teaching Assistant, Virtual and Augmented Reality (CS-GY 9223), New York University 2022 Fall

Teaching Assistant, Final Year Project (IERG 4998/4999), The Chinese University of Hong Kong 2020 – 2022

## SKILLS

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- **Programming:** C/C++, Python, C#, Java, CUDA, Matlab
- **Tools:** PyTorch, TensorFlow, Libigl, Eigen, Git, CMake, OpenMP
- **Software:** Blender, Unity, Photoshop, Premiere Pro, Illustrator, Matlab, Mathematica, MeshLab
- **Language:** Mandarin, English, French