Haoda Li

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Education

University of California, Berkeley — August 2022 – May 2023
M.Eng. in Electrical Engineering and Computer Science (GPA: 3.93/4.0) — Berkeley, CA, USA

University of Toronto, St. George Campus — September 2017 – June 2022
B.Sc. in Computer Science & Data Science (GPA: 3.91/4.0) — Toronto, ON, Canada

Experiences

AniML, Inc. — June 2023 – Present
Machine Learning Engineer — Montreal, QC, Canada
- Joined as a founding engineer at AniML, developing the end-to-end solution for realistic 3D content creation using images and videos.
- Researched on neural rendering and 3D generative AI. Created solutions for the rapid reconstruction of high-fidelity objects.

Huawei Canada — May 2020 – August 2021
Research Engineer Intern — Markham, ON, Canada
- Developed cloud-based video editing applications on mobile devices with cutting-edge AI algorithms.
- Maintained the automated pipeline for model training and cloud deployment using Docker.
- Used OpenCV and C++ to create test systems for hand tracking and action recognition.

Researches

VIP Lab, University of California - Berkeley — August 2022 – May 2023
Research student, supervised by Avideh Zakhor — Berkeley, CA, USA
- Researched on and published a novel method for improving quality and efficiency of 3D indoor reconstruction using low-cost micro drones.
- Surveyed on neural rendering methods and engineered on optimizations for capturing and modeling large, complex indoor environments.

SysNet Group, University of Toronto — January 2022 – June 2022
Research student, supervised by Nandita Vijaykumar — Toronto, ON, Canada
- Researched on novel methods for acceleration and edibility of neural radiance fields for scene representations.
- Developed CUDA accelerations kernels for GPU based point aggregations and differentiable physics based volume rendering.

PAIR Lab, Vector Institute — August 2021 – May 2022
Research student, supervised by Animesh Garg — Toronto, ON, Canada
- Researched on a novel method for robot to grasp and assemble objects using 3D computer vision.
- Designed a new simulation environment for 3D fractured object generations.

University Health Network — September 2019 – April 2020
Research student, supervised by Bo Wang — Toronto, ON, Canada
- Designed and created the interactive application for processing and visualizing high-dimensional cell RNA-seq data.
- Researched on acceleration methods for RNA-seq analysis with GPUs.

Publications

Haoda Li, Puyuan Yi, Yunhao Liu, Avideh Zakhor. "Scalable MAV Indoor Reconstruction with Neural Implicit Surfaces", *ICCV 2023 Workshop on Computer Vision Aided Architectural Design*, 2023

Ruofan Liang, Jiahao Zhang, **Haoda Li**, Chen Yang, Yushi Guan, Nandita Vijaykumar. "SPIDR: SDF-based Neural Point Fields for Illumination and Deformation", *CVPR 2023 Workshop on Advances in NeRF for the Metaverse*, 2023

Yun-Chun Chen, **Haoda Li**, Dylan Turpin, Alec Jacobson, Animesh Garg. "Neural Shape Mating: Self-Supervised Object Assembly with Adversarial Shape Priors", in *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022

Varshanth R. Rao, Md Ibrahim Khalil, **Haoda Li**, Peng Dai, Juwei Lu. "Dual Perspective Network for Audio Visual Event Localization", in *European Conference on Computer Vision (ECCV)*, 2022

Varshanth R. Rao, Md Ibrahim Khalil, **Haoda Li**, Peng Dai, Juwei Lu. "Decompose the Sounds and Pixels, Recompose the Events", in *Confernce on Artificial Intelligence (AAAI)*, 2022

Teaching Experience

CSC417H1/CSC2549H Physics based Animation   **2021 Fall**
Teaching Assistant with Prof. David I.W. Levin   University of Toronto

CSC311H5 Introduction to Machine Learning   **2021 Fall**
Teaching Assistant with Prof. Anthony Bonner   University of Toronto

CSC317H1 Computer Graphics   **2022 Winter**
Teaching Assistant with Prof. David I.W. Levin and Prof. Alec Jacobson   University of Toronto

Honours and Awards

UC Berkeley MEng Fung Excellence Scholarship	**August 2022**
Michael And Edward Dearden Scholarships	**June 2022**
Alen Milne Mccombie Award	**June 2022**
Dr. James A. & Connie P. Dickson Scholarship In Science & Mathematics	**October 2020**
University College Special Admission Scholarships	**September 2017**
Dean's List Scholar	**2017–2021, all years**

Relevant Coursework

Computer Graphics: Physics-Based Animation; Geometry Processing; Virtual Reality and Immersive Computing; Computational Imaging; Parallel Computing

Computer Vision: Learning for 3D Vision; Visual Computing; Image Understanding; Digital Image Processing

Deep Learning: Neural Nets and Deep Learning; Probabilistic Learning and Reasoning; Machine Learning; Experimental Design for Machine Learning on Multimedia Data

Numerical Analysis: Numerical Methods; Nonlinaer Optimizations; Real Analysis; Differential Geometry