

# HAODA LI

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## Education

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### University of California, Berkeley

*M.Eng. in Electrical Engineering and Computer Science (GPA: 3.93/4.0)*

**August 2022 – May 2023**

Berkeley, CA.

### University of Toronto, St. George Campus

*B.Sc. in Computer Science & Data Science (GPA: 3.91/4.0)*

**September 2017 – June 2022**

Toronto, ON, Canada

## Experiences

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### AniML, Inc.

*Machine Learning Engineer*

**June 2023 – Present**

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

*Research Engineer Intern*

**May 2020 – August 2021**

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

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### VIP Lab, University of California - Berkeley

*Research student, supervised by Avidah Zakhori*

**August 2022 – May 2023**

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

*Research student, supervised by Nandita Vijaykumar*

**January 2022 – June 2022**

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

*Research student, supervised by Animesh Garg*

**August 2021 – May 2022**

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

*Research student, supervised by Bo Wang*

**September 2019 – April 2020**

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

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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 *Conference on Artificial Intelligence (AAAI)*, 2022

## Teaching Experience

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### CSC417H1/CSC2549H Physics based Animation

Teaching Assistant with Prof. David I.W. Levin

2021 Fall

University of Toronto

### CSC311H5 Introduction to Machine Learning

Teaching Assistant with Prof. Anthony Bonner

2021 Fall

University of Toronto

### CSC317H1 Computer Graphics

Teaching Assistant with Prof. David I.W. Levin and Prof. Alec Jacobson

2022 Winter

University of Toronto

## Honours and Awards

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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

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**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; Nonlinear Optimizations; Real Analysis; Differential Geometry