

## Brian Xu

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### EDUCATION

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**Brown University**, Providence, RI

Master of Science, Computer Science

September 2024 – May 2026 (expected)

*Relevant Coursework:* Seminar in Computer Vision for Graphics and Interaction

**University of California, Irvine**, Irvine, CA

Bachelor of Science, Computer Science; GPA: 3.88

September 2019 – December 2022

*Dean's Honor List, 2019 – 2022*

### RESEARCH EXPERIENCE

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**Brown Visual Computing**

*Graduate Student Researcher*

September 2024 – present

Conducting research on 3D reconstruction methods in extremely challenging environments.

### INDUSTRY EXPERIENCE

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**Meta Platforms, Inc.**

*Software Engineering Intern*

June – September 2022

Improved the speed and scalability of a data annotation pipeline by integrating ML/CV models. Doubled efficiency while reducing data footprint by over 80% through efficient caching and usage of predictions from upstream in the pipeline. Redesigned database to better integrate with internal data visualization tools for quality control.

**Amazon.com, Inc.**

*Software Engineering Intern*

June – September 2021

Accelerated the user registration process by implementing a responsive user interface built in jQuery. Designed a robust and scalable backend with the Spring Framework, deployed on AWS. Utilized RESTful design principles to communicate sensitive user data between internal endpoints. Collaborated closely with UI designers to create a responsive user experience

### PROJECTS

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**HyP-NeRF: Learning Improved NeRF Priors using a HyperNetwork**

<https://github.com/brian-xu/HyP-NeRF>

Partial implementation of a research paper, building on the author's reference implementation. Original contributions include extending the model to generate NeRF models conditioned on input text and images through usage of CLIP embeddings.

**Inverse Graphics GAN: Learning to Generate 3D Shapes from Unstructured 2D Data***github.com/brian-xu/IGGAN*

Implemented and trained a neural network for generating 3D models representing 2D images, based on a research paper. Built an efficient data pipeline to enable model training.

**LEADERSHIP / MEMBERSHIP**

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**Brown RISD Game Developers***Programmer*

September 2024 – present

Collaboratively designed and built an indie game in Unity.

**Brown Puzzle Hunt***Tech Team Member*

September 2024 – present

Collaboratively developed a full-stack application to support puzzle hunts attended by hundreds of solvers.

**Artificial Intelligence @ University of California, Irvine***Student Mentor*

March 2020 – June 2021

Organized and planned quarterly meetings. Designed and taught machine learning workshops to students. Led club presentation for university hackathon and judged student projects.

**WORKSHOPS/PRESENTATIONS**

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**“RenderNet: 3D Voxel Rendering with Deep Convolutional Networks”**

April 2021

*Artificial Intelligence @ UCI***“HackUCI - Supervised Learning with Online Datasets”**

January 2021

*HackUCI 2021***“PIFuHD: Image-Based 3D Human Shape Estimation”**

January 2021

*Artificial Intelligence @ UCI***“Fundamental Machine Learning / Data Science Tools”**

November 2020

*Artificial Intelligence @ UCI***“BERT: Bidirectional NLP with Transformers”**

May 2020

*Artificial Intelligence @ UCI*