Brian Xu

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EDUCATION

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

Brown Visual Computing
Graduate Student Researcher   September 2024 – present
Currently researching 3D reconstruction methods in extremely challenging environments, advised by James Tompkin.

INDUSTRY EXPERIENCE

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

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

Brown RISD Game Developers

Programmer   September 2024 – present

Collaboratively built an indie game in Unity.

Brown Puzzle Hunt

Tech Team Member   September 2024 – present

Helped develop a full-stack application to support a puzzle hunt 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

"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

LANGUAGES

English (native), Chinese (conversational)

TECHNICAL SKILLS

Python, PyTorch, NumPy, matplotlib, Jupyter, pandas, Git, C++, MySQL, Google Cloud