Brian Xu

• Providence, RI \square brian@brian-xu.com \square brian-xu.com in brian-s-xu **O** brian-xu Education _____ MSc Brown University, Computer Science Sept 2024 - May 2026 • Coursework: Seminar in Computer Vision for Graphics and Interaction, Topics in 3D Computer Vision and Machine Learning University of California, Irvine, Computer Science BSc Sept 2019 - Dec 2022 • GPA: 3.88/4.0 · Coursework: Machine Learning and Data Mining, Introduction to Probabilistic Graphical Models, Introduction to Optimization, Computational Photography and Vision, Project in Computer Vision Research Experience _____ Brown University, Graduate Student Researcher Sept 2024 – present • Conducted research on 3D reconstruction methods in low-light environments. • Analyzed the effects of noise on Gaussian splatting and physics-based solutions for the resulting issues. Experience _____ Meta Platforms, Inc., Software Engineer Intern Burlingame, CA June 2022 – Sept 2022 • Improved the speed and scalability of a data annotation pipeline. 3 months · Increased annotation speed by integrating computer vision models for machineassisted annotations. • Reduced data footprint by over 80% through efficient caching. • Redesigned database to better integrate with internal data visualization tools. Amazon.com, Inc., Software Engineer Intern Seattle, WA June 2021 – Sept 2021 • Created a progressive web app to handle the user registration process. 3 months · Implemented ML/CV models to process information from user-uploaded images. • Designed a robust and scalable backend with the Spring Framework. • Created and deployed server endpoints to handle sensitive user information. Projects _____ Scaffold-GS Nerfstudio Extension brian-xu/scaffold-gsnerfstudio 🗹 • Implementation of Scaffold-GS as a nerfstudio extension. • Enabled interactibility and reproducibility through the nerfstudio framework. · Implementation of follow-up paper GSDF leverages a dual-branch architecture to increase reconstruction accuracy and export meshes. HyP-NeRF: Learning Improved NeRF Priors using a HyperNetwork brian-xu/HyP-NeRF 🗹 • Partial implementation of a research paper, building on the author's released work. • Code contributions include conditioning the model to generate NeRFs from text and images via CLIP embeddings.

Inverse Graphics GAN: Learning to Generate 3D Shapes from Unstructured 2D Data	brian-xu/IGGAN 🗹
• Implemented and trained a neural network that learns a distribution of 3D models from 2D images.	
• Built an efficient data pipeline to enable model training.	
Leadership and Membership	
Brown Visual Computing, visual.cs.brown.edu 🗹	Sept 2024 – present
Attended NECV2024 @ Yale University	
Artificial Intelligence @ UCI, Student Mentor	Mar 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 and Presentations	
Dark Scene Reconstruction Survey	Nov 2024
Brown Visual Computing	
RenderNet: 3D Voxel Rendering with Deep Convolutional Networks Artificial Intelligence @ UCI 	Apr 2021
HackUCI - Supervised Learning with Online DatasetsHackUCI 2021	Jan 2021
PIFuHD: Image-Based 3D Human Shape EstimationArtificial Intelligence @ UCI	Jan 2021
Fundamental Machine Learning / Data Science ToolsArtificial Intelligence @ UCI	Nov 2020
BERT: Bidirectional NLP with TransformersArtificial Intelligence @ UCI	May 2020