Weiji Chen

weijic01@gmail.com| wjchen@ucsd.edu| [LinkedIn](#) | [Github](#) | 626-758-2800

EDUCATION

University of California San Diego   Sept 2019 -June 2024
B.S. Computer Science | Major GPA: 3.7
M.S. Computer Science   Sept 2024 - June 2025

Summary: Experienced in Computer Vision and Graphics research for AR/VR, iOS development, and Full-Stack Engineering for Machine Learning. Seeking **Winter** and **Summer** internship in **AI/ML** or **SWE**

EXPERIENCE

Incoming Full-Stack Engineer Intern | Nvidia   March 2024 - May 2024
- Develop software infrastructure for cloud ML platform, accelerating ML models and manage AI services

Machine Learning and Computer Vision Intern Research | Sony Electronics   Sep 2023 - Dec 2023
- Research and implementing computer vision algorithms (vision transformers) for real-time depth map generator with video input in 3D reconstruction pipeline - improving point cloud rendering and mesh reconstruction by 20% **(Python, PyTorch, Nvidia Jetson)**
- Developed software for augmented reality - increased reconstruction quality of human avatars and objects in VR headsets - improved by 15% using photorealistic metrics over current methods
- Streamlined ML training and deployment by building a data processing pipeline in a cloud-based system **(AWS)** - engineering software to optimize for deep learning algorithms with real-time video data

Computer Vision Researcher | Ramamoorthi Lab at UC San Diego   July 2023 - Present
- Developer of 3D reconstruction framework utilizing deep learning algorithms (NeRF) to improve indoor scene reconstruction with enhanced graphics for augmented reality application (**Python, CUDA, PyTorch**)

Full-Stack AI Engineer | Su Lab at UC San Diego   May 2023 - Present
- Software development for AI platform ([ManiSkill2](#)) - virtual environment with user-interface and physics engine to evaluate robotic agents and computer vision algorithms across generalizable tasks
- Implemented low latency code (**TypeScript**) in **Angular** for responsive user experience and integrated backend physics engine to interactive dataset using **Node.js** and **MySQL,** enabled realistic virtual environment for AI agents and ran in **Docker** for scalability - improve response time by 25%
- Utilized **Blender** to improve photorealistic texture on 3D objects, exported assets to **Unity** to script game logic, interactions, and scenes - used in AI platform for robotic agents to interact in virtual environment
- Developing software using **Swift** and **Xcode** with RealityKit to support AR modality, leveraged SwiftUI to design and implement interactive AR interface

Machine Learning Engineer Intern | San Diego Supercomputer Center   March 2023 - May 2023
- Utilized **SQL** to clean large-scale datasets and **Spark** to streamline ML experimentation pipeline, increasing scalability, pre-processing, and reducing training time of ML models by 30%
- Streamed and collected data from multiple sources using Spark and feature engineered raw data to improve generalization of image recognition models (**C++**), increasing accuracy by 20%

Software Game Developer Intern | San Diego Supercomputer Center   July 2022 - Sep 2022
- Implemented game maps with **Unity**, character navigation system with **C#** scripts, and populated maps with 2D objects. Integrated with recommendation engine to teach players investment strategy
- Engineered backend infrastructure (**Node.js)** for scalable data management (**MongoDB**) and real-time data retrieval using RESTful API (**Express.js**) for web application - decreased data retrieval time by 15%

SKILLS

Software Tools: Git, Docker, Node.js, Express.js, MongoDB, MySQL, Angular, React, Unity, RealityKit
Machine Learning Tools: PyTorch, Spark, CUDA, OpenCV, OpenGL, NLTK
Programming Languages: Python, C++, C#, SQL, Java, TypeScript, HTML, CSS, Swift