

DEBBY LIN

New York, NY | 347-466-3538 | debbylin02@gmail.com | www.debby-lin.com

EDUCATION

UNIVERSITY OF PENNSYLVANIA

Bachelor of Science in Engineering in Computer Science (Digital Media Design)

Honors: Dean's List, Summa Cum Laude

Relevant Coursework: Interactive Computer Graphics, Computer Systems, Data Structures and Algorithms, Artificial Intelligence, Linear Algebra, Programming Languages/Techniques, Game Design, Advanced Rendering, Procedural Computer Graphics, Production Pipeline

Philadelphia, PA

May 2024

GPA 3.8/4.0

TECHNICAL SKILLS

Languages: C++, C#, C, Java, Python, GLSL, SQL, JavaScript, TypeScript, HTML, CSS

Technologies: OpenGL, WebGL, Node.js, React.js, MySQL, PostgreSQL, Git/GitHub, AWS, Docker, HTTP, JSON, Ubuntu, Linux

Concepts: Object Oriented Programming, Cloud Storage, REST APIs, Databases, Unit Testing, CI/CD, Multi-threading, Web Services

WORK EXPERIENCE

UNIVERSITY OF PENNSYLVANIA

Teaching Assistant for Game Design Practicum Course (CIS 5680)

- Facilitated the development of 13 original graduate student game projects built with **Unity 3D** and **Unreal Engine**, featuring AR/VR, mobile gameplay, and multiplayer networking, by overseeing homework assignments and hosting weekly office hours

Philadelphia, PA

Aug – Dec 2023

SIG CENTER FOR COMPUTER GRAPHICS (University of Pennsylvania)

Generative Computer Graphics and Augmented Reality Research Assistant

- Designed advanced motion graphics generation features for an interactive and educational AR application for the **HTC VIVE** headset, by leveraging cutting-edge generative AI and LLM-based computer animation techniques using **Python**, **PyTorch**, and **Ubuntu**

Philadelphia, PA

Jun – Sept 2023

ETHIC (Sustainability oriented fintech startup managing over \$4.5 billion in assets)

Full-Stack Software Engineering Intern

- Boosted client satisfaction and reduced staff error response times by designing, building, testing, and deploying a user-facing full-stack application using **Java**, **REST APIs**, and webhooks to deliver instant notifications for email campaign failures to over 50 employees
- Improved data observability spanning over 1,800 email campaigns and over 1,000 users by developing and deploying user-facing **NodeJS** web pages built with **JavaScript**, **Bootstrap**, and **AG Grid** to visualize **MySQL** data for technical and non-technical staff

New York, NY

Jun – Aug 2022

IPC SYSTEMS (\$1.2 billion fintech provider of trading platforms to over 7,000 customers in 750 cities worldwide)

Quality Assurance Engineering Intern

- Integrated code coverage tools into QA pipeline to report automated and manual testing suite coverage for flagship UNIGY trading communication system using **Java** and **Jenkins**; Identified bottlenecks and improved test reliability for over 110,000 platform users

Fairfield, CT

Jun – Aug 2021

PROJECTS

GRIDDLE: 3D ASSET DATABASE TOOL (Full-stack web app made with **JavaScript**, **SQL**, and **Python**)

Jan – May 2024

- Collaborated with a 17-person team to develop a version control and asset database management web tool for 3D artists and animators
- Tracked and stored **USD** model files, metadata, and user data in a **PostgreSQL** database, replicating industry-standard studio pipelines
- Designed and built backend **REST API** infrastructure and frontend UI components using **Figma**, **HTTP**, **React**, **Docker**, **AWS S3**, and **FastAPI**, implementing cloud-based storage, version control, search, filtering, and user privileges to streamline workflow

FLUID WEB SIMULATION (Interactive real-time simulation made with **TypeScript**, **CSS**, **WebGL**, and **HTML**)

Jan – May 2024

- Developed a physically-based 2D fluid simulation using a hybrid particle-grid model with PIC-FLIP method in **web graphics**
- Engineered custom physics engine, shaders, rendering pipeline, and an interactive user interface featuring draggable items, resolution control, and dynamic coloring to enhance user interaction, immersion, and visual customization

MINI MINECRAFT (3D world exploration and alteration game built with **C++**, **GLSL**, and **OpenGL**)

Apr – May 2022

- Worked in 3-person team to build custom game engine, player physics, 3D environment, and rendering pipeline, optimized via multi-threading and infinite chunk-based terrain generation
- Developed an on-screen GUI, crosshair, player controls, and inventory system to enhance user experience and immersion

MINI MAYA (3D mesh editor application built with **C++**, **GLSL**, and **OpenGL** in the style of Autodesk Maya)

Feb – Mar 2022

- Developed a mesh manipulation tool for 3D artists by engineering a half-edge data structure, integrating a polar camera, and supporting multiple file formats for importing and exporting models (**OBJ**, **JSON**, **USD**)
- Implemented advanced topology-editing functions, linear-blend skinning, and an interactive UI to refine and optimize mesh geometry

ACTIVITIES AND LEADERSHIP

PENCILBITE ANIMATION STUDIO - Co-Founder, Lead Producer

Aug 2023 – May 2024

- Launched a 25-person 2D animation studio, overseeing all aspects of film production for an independent hand-drawn short film
- Directed budget planning, grant applications, production pipeline, guest speaker events, studio communications, and executed a successful marketing campaign that engaged over 860 online users across social media platforms