

Ivery (Ivy) Chen

SOFTWARE DEVELOPER · VISUAL ENGINEER

🏠 iverychen.com | ✉ iverychen@gmail.com | 📱 ivery-chen

Education

Brown University - B.A, Computer Science

Providence, RI

CS TEACHING ASSISTANT, IVY FILM FESTIVAL, BROWN MOTION PICTURES

Sept 2019 - May 2024

- Computer Graphics, Computer Vision, UI/UX, Computer Animation, Software Engineering, Probability and Statistics, Linear Algebra, Designing Humanity-Centered Technology, The Entrepreneurial Process (UX Research)

Rhode Island School of Design - B.F.A, Film/Animation/Video

Providence, RI

BROWN RISD SPACE DESIGN, BROWN RISD GAME DEVELOPERS

Sept 2019 - May 2024

- Game Design, Film Practices, Video Practices, Lighting and Sound, Digital Foundation, Advanced Animation, Intro to C4D, MaxMSP, Pitching

Work Experience

Pixar

Emeryville, CA

TECHNICAL DIRECTOR INTERN (PUP) - MENTOR ALYSSA MINKO

June 2023 - Aug 2023

- Developed procedural shader tool with UI for stylised shading for short film production, utilised by a team of nine, reduced shading time by 10 fold
- Familiar with Universal Scene Description (USD) and the integration of effects containers and assets from different software into the same scene. Used the entire 3D pipeline to create a realistic environment from 2D concept art, from modelling, texturing, UV, simulation, layout, lighting to compositing using Maya, Substance, Houdini, Katana and Nuke

Brown Human Computer Interaction Lab

Providence, RI

RESEARCH ASSISTANT - MENTORS JI WON CHUNG AND JEFF HUANG

Jan 2023 - Current

- Built 3DPro, a tool that generates 3D assets with paper using OpenCV, Websockets, Three.js, MediaPipe, earcut algorithms, and writing custom obj files. It brings back traditional/gestural methods with drawings, hand gestures and laptop webcam into creating 3d assets within seconds.
- Conducted research including field studies, participant interviews and surveys using Qualtrics and Google Forms to analyze user behaviour and product aspects for DataPerformAR, a novel AR presentation tool developed by Ji Won Chung at Adobe

Bayer

Remote, US

SOFTWARE ENGINEERING INTERN

May 2022 - Aug 2022

- Led development of VR app for Bayer using Unity, Meta SDK, Oculus SDK, Git, Substance, Blender, deployed on Oculus headsets using AWS
- Brought the project from end-to-end, proactively driving user-centric design through the initiation and execution of user interviews, gathering stakeholders' needs to inform design decisions for education VR app that educated all crop inspectors on how to operate drones
- Increased project efficiency by optimizing 3D modeling, retopology, texturing, and scripting for real-time 3D rendering for top-tier performance
- Created extensive documentation, prioritizing code readability to ensure collaboration and scalability of the project

NASA

Providence, RI

AR DEVELOPER

Sept 2021 - May 2022

- Collaborated with renowned NASA data visualiser Kimberly Arcand to launch the industry's first-ever data-driven Augmented Reality (AR) app
- Implemented Web AR experience using AFrame, created procedural shaders for star models in GLTF format

Projects

PARTIFUL REDESIGN

- Redesigned Partiful's event page using wireframes and hi-fi prototype. Presented progress at meetings, refined designs based on feedback, and integrated user interview insights for enhanced user experience.

FOAM WEBSITE

- Designed, evaluated, and developed a website (iPad, iPhone and Macs) for Foam. Developed the website using React, JavaScript, HTML, CSS, showcasing proficiency in best interaction design principles

3D SCENE RECONSTRUCTION

- Implemented point-cloud 3D reconstruction from 2D images using SIFT algorithm, RANSAC, simultaneous Localization and Tracking, feature-based Object tracking, Multi-view Geometry

GRAPHICS RAYTRACER, PROCEDURAL MODEL GENERATOR

- Implemented raytracer using C++, QtCreator, GLSL, implemented shadow, reflection, texture mapping
- Created a realtime crystal model generator with trimeshes using OpenGL, implementing blur, invert, sharpen and grayscale filters

NASA SUITS AR

- Led the navigation component of my team's Hololens prototype for NASA's 2022 AR Suits challenge. Collaborated with designers to code Figma prototype into functional app in Hololens using Unity, C# and MRTK

Technical Skills

C++, C#, Java, Python, JavaScript, Typescript, AWS, Scala, Three.js, React, HTML, CSS, Git, WebGL, GLSL, SQL, AFrame, Qt, Linux, Arduino

Figma, Unity, Blender, Maya, Houdini, Nuke, Katana, Arnold, Substance Painter, Motion Capture, Marvellous Designer, C4D, Max MSP, ROS, Adobe Suite (Premiere Pro, AfterEffects, Photoshop, Illustrator, Audition, Animator), DaVinci Resolve

Awards

JUNE 2021

Director of Photography for Caffe Greco nominated for Venice Shorts and Berlin International Art Film Festival

JAN 2022

Team Finalist in NASA 2022 Suits AR competition