Yu-Shiang Tseng

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Experience

Senior Software Engineer, Delta Electronics, Inc. Jul. 2024 – Present

- Developed an enterprise WLAN management system from scratch and launched it to production.
- Led frontend development with Next.js and TypeScript, collaborating on backend API integration.
- Improved wireless signal simulation to real-time rendering with GLSL.
- Developed 3D visualization of 2D layouts and client paths using WebGL (Three.js).

Frontend Engineer, Kdan Mobile Software Ltd. Oct. 2022 – Jun. 2024

- Developed e-signature SaaS features in a Scrum environment, delivering a CMS for real-time marketing updates.
- Leveraged Next.js SSR with Core Web Vitals monitoring to enhance SEO and user experience.
- Developed and maintained customized on-premise versions using Git forks and Docker to build production environments, with SonarQube for code quality scanning.
- Developed an signature background removal tool using WebGL stencil buffers and chroma key algorithm.

Software Engineer Intern, iStaging Corp. Sep. 2019 – Jan. 2020

- Built a web-based room tour and virtual exhibition platform using Three.js and React.
- Built a 3D scene editor with GPU instancing, GPU-based object selection, and camera controls.
- Developed GLSL shaders for real-time panorama blending and chroma key background removal.

Education

National Taiwan University of Science and Technology Sep. 2016 – Jul. 2022

- Bachelor of Science and Master of Science in Computer Science.
- Master's Thesis: Developed a Neural Radiance Fields pipeline using Depth Oracle Network; trained in PyTorch to map position and view direction to color and synthesize novel-view images via volume rendering.
- Implemented a multi-RGBD capture system using CUDA to generate 3D points and OpenGL to render them.
- Built a synthetic data generator in Unity 3D to produce training data and ground truth for evaluation.

Projects

3D Coverage Visualizer

- Developed real-time 3D wireless signal visualizations using volume rendering algorithms implemented in GLSL.
- Developed GLSL shaders for 3D signal attenuation with ray-based wall detection.
- Studied research papers and implemented signal coverage visualization using per-channel color and orientation.

Triangle localization Simulator

- Built a person tracking data simulator that sends data to Prometheus and visualizes it with Grafana.
- Estimated positions from historical trace data via triangle localization algorithm.

Panorama Scene Editor

- Utilized neural networks to estimate editable 3D layouts from a single panorama.
- Developed a Python backend server with RESTful API to run neural networks asynchronously.
- Containerized the entire service using Docker Compose and automated image builds via GitHub CI.

Technical Skills

Languages: JavaScript, TypeScript, CSS, HTML, GLSL, C++, Python

Frameworks/Libraries: Next.js, React, Three.js, OpenGL, OpenCV, PyTorch, CUDA

Tools: Git, CI/CD, Docker, Docker Compose, SonarQube, Nginx, Prometheus, Grafana, Unity