

Ying Xiang Seah

Full-Stack Developer/Mixed Reality Developer
Computer Science and Design Undergraduate @ Singapore University of Technology and Design



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Work Experience

Mixed Reality Developer • HelloHolo • Singapore

◆ Full-time • Feb 2024 - Aug 2024 • 6 mo

- Spearheaded the development of an internal UI Toolkit in Unity to streamline XR workflows, replacing the unsupported MRTK. Advanced **Unity editor scripting** and created comprehensive API documentation using DocFX.
- Served as a **trainer** for DSTA BrainHack XRperience 2024 for over 120 participants, creating and delivering **Unity** and **C#** instructional materials for **cross-platform XR** content creation. Demonstrated Apple Vision Pro's capabilities and provided development support, managing the application showcase and XR experience booths.

◆ University Studies

◆ Part-time • Oct 2021 - Oct 2022 • 1 yr

- Experience in teaching as an **assistant trainer** for immersive media courses with over 150 students for several major local education institutions.
- Built a **digital twinning** experience for National University of Singapore's 5G Lab exhibition.

◆ Enter University - Singapore University of Technology and Design

◆ Full-time • Oct 2020 - Oct 2021 • 1 yr

- Delivered multiple MR-based **training simulators** on HoloLens 2 for various prominent global corporations for their internal employee training initiatives.
- Worked with Microsoft Egypt to deliver an interactive data visualization app that displays **dynamic real-time IOT data** on construction analytics for a prominent national project.
- Assisted as a **technical consultant** for a renowned local technological university for their student research project, mr4dfma2, which explores the use of **digital twinning in MR** to aid engineers in testing and evaluating mechanical designs and assemblies from CAD software.

Projects

SUTDHotelBooking - Hotel booking site case study

- Led a team of 6 through the process of **client interaction**, milestone setting, and determining project parameters for a frontend-focused full-stack web application development.
- Headed frontend/backend development using the **T3 stack** - NextJS, React, TailwindCSS, NextAuth, Prisma, Typescript, and MySQL.
- Used Figma for **rapid prototyping** and mocking of the site.
- Implemented **testing** structures (unit/integration/E2E) using Jest and Cypress.
- Delivered a functioning site with user authentication, login system, API fetching, and full hotel searching capabilities with fuzzy searching.

FPGA Arcade Game and ALU design

- Designed a working **16-bit ALU** and **CPU** following MIT's Beta CPU ISA using Lucid HDL, deployed on the Xilinx Artix-7 **FPGA**.
- Wrote a **graphics driver** for our custom CPU design to display graphics on an RGB LED matrix.
- Prototyped **game code in C** and hand-transpiled C code to the Beta assembly language to run on our CPU implementation on the FPGA.

Hobbies & Interests

- Portrait and Travel Photography
- 3D modelling and rendering - with Blender and Unreal Engine 5
- VR gaming and game development
- Thrill-seeker - rollercoaster rides and adventure activities
- Avid manga reader

Skills

Full Professional Proficiency

- Java
- Python
- Javascript/Typescript
- HTML/CSS
- NextJS
- Unity/MRTK (C#)
- Git
- LaTeX
- Android Studio
- Figma
- React

Decent Proficiency

- Lua
- Flutter (Dart)
- Davinci Resolve
- Blender (3D modelling/rendering)
- FPGA Programming (Lucid HDL)
- Flask (Python)
- C++
- MySQL

In Progress

- Unreal Engine 5
- React Native
- Blender (texturing, rigging)
- MongoDB

Related Coursework

- Computational Structures
- Computer System Engineering
- Algorithms
- Information Systems
- Elements of Software Construction
- Machine Learning
- Design Thinking Projects

Education

Bachelor of Engineering in Computer Science and Design

Singapore University of Technology and Design
2021-2025 • CGPA 4.50

Executive member of Cycling Interest Group

- Organized and hosted weekly biking activities
- Managed club finances

Member of the SUTD XRCommunity

- Organized club meetings and presented topics on current events in XR (Extended Reality)