Zixuan(Leo) Zhang

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Personal Profile

Currently a Student at the University of Utah, undertaking Image Processing and Computational geometry courses. Zealous about computer graphics and with 1+ years of experience specializing in Rendering, Image processing, algorithms, and full-stack web development. Primarily, looking for Rendering Engineer/Game Engine Programmer/Graphics Tools Programmer/Technical Artist roles.

Education

University of Utah   *Utah, US*

BS in Computer Science with Visual Computing track   *Sept 2019 - Current*

- Working as a TA in CS1400 COMP1020 and CS4600
- **Courses:** Introduction to Computer Graphics, Interactive Comp Graphics, Image Processing Basics, Visualization for Data Science, Computer Organization, Algorithms, Computer Systems

Experience

Reasearch Assistant   *Utah, US*

University of Utah Scientific Computing and Imaging Institute   *Jan 2023 - Current*

- Use front-end tools to analyze human sensitivity to different computer diagrams and annotations. Full-stack development of survey web pages, and data analysis of data on SQL using Python.
- **Technical Skills:** React, NextJS, Supabase, Python

Undergraduate Teaching Assistant   *Utah, US*

University of Utah   *Jan 2021 - Jan 2023*

- TAed for Intro Comp Programming, Programming for All 2, Intro Computer Graphics. TAs grade, hold office hours to answer student questions, sometimes present laboratory material, etc. TAs should have good communication skills and a desire to help other students.
- **Technical Skills:** Python, Java, WebGL and OpenGL

Learning Assistant   *Utah, US*

University of Utah   *Sep 2020 - Dec 2020*

- Primary responsibilities include working with the course instructor to improve the course material, hosting the lab and regularly attending teaching seminars.A very deep understanding of mathematical material is required.
- **Technical Skills:** Calculus, Linear Algebra

Unity Engineer Internship   *Utah, US*

Vutility   *Apr 2021 - Sep 2021*

- Call the API provided by the back-end team from the front-end team and serialize and render the JSON file format returned by the API to the front-end. Use Unity to customize the UI for the user and use Doozy to render these things out.
- **Technical Skills:** Unity, C#, JSON, Neo4J

Projects

Screen Space Ambient Occlusion   *Utah, US*

University of Utah   *Feb 2022 - Apr 2022*

- Build Screen Space Ambient Occlusion using OpenGL alone.
- Learn from online how to perform Depth detection and use RenderDoc for debugging.
- **Technical Skills:** C++, OpenGL, RenderDoc
- **Soft Skills:** Time Management, Self-Study Ability, Presentation skills, Report writing.

Normal Maps, Tessellation and Geometry Shader   *Utah, US*

University of Utah   *March 2022*

- Convert the normal map defined in tangent space to View-Space and implement the Phone-Bilnn Shader Model based on this normal.
- Tessellation of the object and determination of its displacement based on the height map.
- **Technical Skills:** OpenGL, C++, Math
- **Soft Skills:** Time Management, Self-Study Ability, Logical Thinking.

Shadow Map and Depth Test   *Utah, US*

University of Utah   *March 2022*

- Use the depth test to detect the distance from the object to the camera in View-Space and output it into a Frame Buffer.
- Use the results of this test to draw the scene and decide whether individual pixels are in the shadows.
- **Technical Skills:** OpenGL, C++, Math
- **Soft Skills:** Time Management, Self-Study Ability, Logical Thinking.

Skills

Programming	Python (numpy, scipy, pyplot), C++(SLT, QT, OpenGL, Boost), HTML/CSS, JavaScript(WebGL, React, NextJS)
Game Engine	Unity, Unreal, Godot
DataBase	SQL, MongoDB, Neo4J
Miscellaneous	Linux, Shell (Bash/Zsh), LaTeX(Overleaf), Microsoft Office, Git, Maya, Zbrush, Blender, Photoshop, Logic Pro X.
Languages	English(Professional proficiency), Chinese(Native proficiency)
Soft Skills	Time Management, Teamwork, Problem-solving, Documentation, Engaging Presentation.

Achievements

2022	**325/340**,	Graduate Record Examinations (GRE)
2022	**Best Visual Arts Game**,	SFK X Gloabel Game Jam 2022

References available upon request.