LINDSAY KORNGUTH

Education

Columbia University, *Columbia College*
Bachelor of Computer Science
GPA: 3.8 | Class of 2023

Stanford University, *School of Engineering*
Graduate Certificate in Visual Computing
In Progress | Expected 2025

Experience

R&D Intern, *CLO Virtual Fashion*
June 2023 - August 2023 (Culver City, CA)
- Perform research in garment simulation, computer graphics, geometric modeling, visualization, and CAD modeling.
- Interface with engineers and 3D designers to translate research findings into actionable advancements of products
- Represented CLO Exhibition at ACM SIGGRAPH 2023
- Presented internship research project on Dependency Graph software architecture to R&D team.

Animation Production Intern, *Partizan Entertainment*
January 2023 - May 2023 (Remote)
- Composed director's treatment for CG Animation short: storyboard, look development, pre-production animatics
- Production scheduling and asset management in ShotGrid
- Collaborated with pre and post-production departments to track progress and update shared databases

Frontend Developer (three.js), *Leo Villareal Studio*
Sept 2022 - January 2023 (Brooklyn, NY)
- Developed website for award-winning artist's **virtual gallery**
- Performed database queries, python scripting, and debugging

Immersive Experience Design Intern, *MERGE*
May 2022 - August 2022 (Remote)
- Developed application software within XR rendering pipeline in Niantic 8th Wall, including javascript API and three.js libraries
- Lead experience design & front-end design/dev for month-long digital marketing campaign with cross-functional team

Technical Skills

- C/C#/C++
- Python
- Three.js
- Node
- React
- OpenGL
- GLSL
- Unity 3D
- Houdini
- Maya/MEL
- ShotGrid
- Qt/PyQt
- Linux/Unix OS
- Shell Scripting
- Git Version Control
- Data Structures
- Linear Algebra
- PBR Workflows
- Custom Shaders
- Lighting/ Rendering
- Ray Tracing
- Stereoscopic Rendering

Projects

- **WebGL Stereoscope** *(Three.js)* - Real-time application that allows users to switch between Stereoscopic, Anaglyph, and Parallax effects on a custom 3D scene.
- **Virtual Light-Art Display** *(Three.js)* - Interactive 'Lite-Brite' toy with customizable lighting. Integrated external data, and incorporated user-friendly controls for lighting/camera UI.
- **Node Graph Visualizer** *(C++, javascript, qml)* - Developer-facing graphical interface that displays nodes and dependencies for real-time PBR cloth simulation software. (Project inspired by Autodesk Maya's Hypergraph.)
- **Ray Tracing Engine** *(C++)* - Monte Carlo Ray Tracer built from scratch featuring global illumination, optimized anti-aliasing techniques, UV texture-mapping, scene-wide BVH
- **OpenGL Mesh Viewer** *(OpenGL, C++, HLSL)* - OpenGL app processes vertex coordinates and renders objects with custom Blinn-Phong fragment shader and soft shadows. Handles UI events for real-time rotation, scaling, and windowing transformations.
- **VR Music Video** *(Three.js, WebGL)* - Directed and developed real-time virtual reality music video featuring point and diffuse lighting, avatar model and rig, particle animation, environment map and touchscreen interaction.

Extracurriculars & Achievement

- Dean's List Academic Achievement Award (x5) , *Columbia*
- **Featured Artist** , *Ratrock Magazine* ('22)
- A.I. Safety Research Fellow, *Columbia Effective Altruism* ('22)
- Prototyper, *Columbia Digital Storytelling Lab* ('21-'23)
- Founder/President, *Miramonte HS Chess Club ('15-'19)*
- **U.S. Chess Federation Top 50: Highest Rated Female Players**

Relevant Coursework

- Computer Graphics: Rendering - *Columbia*, **Grade**: A-
- Computer Graphics: Animation & Simulation - *Stanford*
- UI/UX Design Lab - *Columbia*, **Grade**: A+
- Digital Game Design - *Columbia,* **Grade**: A
- Linear Algebra - Columbia, **Grade**: A-
- Data Structures & Algorithms - *Columbia*, **Grade**: B+
- Advanced Programming in C - *Columbia*, **Grade**: A-

Github
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