GEORGE GENG

Engineer and animation student passionate about creating immersive experiences at the intersection of art, computer science, and storytelling.

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EDUCATION

California Institute of the Arts Sept 2022 – present
Character Animation Major, expected graduation May 2027

University of California, Berkeley Aug 2014 – May 2018
Bachelors of Science in Electrical Engineering & Computer Science

TECHNICAL EXPERIENCE

Research Engineer May 2018 – Feb 2020
Visby San Francisco, CA

- Performed experiments to explore models for decoding holographic light field video.
- Wrote C++ code and profiled low-level hardware activity to optimize performance, stability, and data throughput as part of a critical feature for the decoding pipeline.
- Designed and implemented a data ETL system in Python for tracking stability metrics.
- Built a DLL to assist with porting the experience into Unity using C#, C++, and CUDA.
- Learned to write well-documented code for a large repository, pick up new libraries on the fly (e.g. libavcodec, OpenSSL), apply best-practice system design principles, and take on many roles in a demanding, fast-paced agile environment.

Animation Studio R&D Intern May 2017 – Aug 2017
Blue Sky Studios Greenwich, CT

- Developed and made improvements to proprietary animation pipeline tools for Blue Sky Studios, an animation studio behind films such as *Ice Age* and *The Peanuts Movie*.
- Collaborated with software engineers and artists to build the groundwork for a node-based material designer and create an intuitive UI for texture artists (Python/PyQt).

Cloth Simulator
C++, GLSL

- Implemented a cloth simulation using the point mass-spring system and accelerated neighbor detection and collission-response with spatial hasing, allowing for real time simulation on a laptop GPU.
- Shaded the cloth with different effects by creating GLSL shaders for texture mapping, bump and displacement mapping, and environment-reflection mapping.

Path-Tracing Renderer
C++

- Implemented a path-tracing renderer with global illumination using physically-based light transport algorithms for UC Berkeley's computer graphics course.
- Integrated different material models (mirror, glass, microfacet), lens models (e.g. fisheye, telephoto), and camera autofocus.
- Optimized sampling techniques to improve rendering times and enhance image quality.

ART EXPERIENCE

Student Films Sept 2022 –present
California Institute of the Arts Santa Clarita, CA

- Produced 2 short animated films ('Night Drive' and 'Sato Sibling Farm') at CalArts. Created storyboards, animatics, character designs, 2D animation, and compositing for each project, gaining familiarity with each step of the animation pipeline.
- Collaborated with peers on their films by providing in-between animation and coloring assistance.

Technical Skills

Graphics programming
Python scripting
Rendering pipeline
Physics
Image processing
Video processing
Parallel programming
3D modeling

Programming Languages

Python
C/C++
Java
C#
MEL
CUDA
OpenGL
OpenMP
Javascript
MATLAB
SQL

Animation and Design Tools

Adobe Photoshop
Adobe Illustrator
Adobe After Effects
Maya
Blender
TVPaint
Toon Boom Harmony
Storyboard Pro