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 2002 – 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).

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.

Cloud Shader
WebGL
- Developed a GLSL shader to generate scenes with aesthetic and believable cloud formations, simulating various lighting scenarios.
- Implemented volumetric rendering techniques and optimized shader performance to allow for real-time rendering within the web browser.

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