

Anya Agarwal

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Education

University of Pennsylvania School of Engineering & Applied Science **May 2027**
M.S.E in Computer Graphics and Game Technology GPA: 4.00

University of California, Berkeley College of Computing, Data Science, and Society **May 2025**
B.A. in Computer Science, Certificate in Design Innovation GPA: 3.86

Graphics Courses: GPU Programming, Physically Based Rendering, Neural Rendering, Computer Graphics, Computer Animation, 3D Computer Modeling, Procedural Computer Graphics, Computer Vision & Computational Photography

Core Courses: Data Structures, Algorithms, Signals and Systems, Machine Learning, Operating Systems, Computer Architecture, User Interfaces, Probability, Data Science, Prototyping and Fabrication, Design Methodology

Skills

Languages/Frameworks: C++, C, Python, Java, GLSL, HTML, Typescript, Pandas, SQL, CUDA, WebGPU, DX12, OpenGL

Tools: Autodesk Maya, Houdini, Unity, Adobe Photoshop & Substance Painter & Premiere Pro, Figma, Git, Qt

Experience

Penn Engineering **August 2026 - Present**

GPU Programming Teacher's Assistant

- Led recitations to teach important class topics, eg. CUDA algorithms, GPU path tracing, WebGPU Gaussian splats
- Supported 60 students through grading and office hours, and helped shape course direction to reflect current practices

Pixar Animation Studios **June 2026 - August 2026**

Technical Director Intern, Global Technology

- Navigated large C++ / Python codebases to build and improve production tools for artists in a fast-paced environment
- Iterated with artists on internal tools based on direct feedback, extending apps with new customizations and features
- Developed a Python/GLSL mirror camera system in Presto to fake reflections live in the viewport and in spooled renders

Berkeley Institute of Design **September 2024 - May 2025**

Undergraduate Researcher

- Assisted in conducting and writing a SIGCHI '26 paper about the creation of Noise Pilot — a tool that implements diffusion-based image generation in a node-based image processing interface — and its impact and usability for artists.
- Connected Noise Pilot with a drawing interface API to allow users to draw masks and shapes for their image generation.
- Implemented an inverse kinematics algorithm from a research paper to explore movement in VR environments.

Projects

glRemix: DX12 Remastering Platform for OpenGL 1.0 Apps **December 2025**

- Created a DirectX 12 platform to remaster OpenGL 1.0 apps with real-time path tracing without using its source code.
- Intercepted OpenGL calls with a shim layer, and used interprocess communication to send to DX12 renderer.
- Implemented features such as asset replacement at runtime, texture/environment mapping, and shadow ray casts.

CUDA GPU Pathtracer **October 2025**

- Built a GPU-accelerated pathtracer using CUDA and C++ that supports various material shaders, antialiasing, and more.
- Integrated bounding volume hierarchy acceleration to optimize loading .OBJ files, creating a 9x speedup for large meshes.
- Added the ability to make fast and complex renders with texture mapping, and stream compaction for path termination.

Flow Control: Autodesk Maya Plugin **April 2026**

- Created a Maya plugin in C++/Python implementing the paper “Going with the Flow,” which efficiently generates physically plausible keyframes for rigid bodies moving through a fluid, without a volumetric fluid simulation
- Computed fluid forces, solved the system with a variational integrator; added a UI to tune parameters like fluid density