NICOLAS NEBEL

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EXPERIENCE

Adobe | *AR/VR Software Engineer Intern* — Summer 2021

- Developed adaptive height map tessellation techniques for an internal real time graphics engine used by some of Adobe's 3D software.

UCSD Immersive Visualization Lab — git.io/JtInK | 2020/2021

- Developed a cinematic OpenGL renderer for 3D medical scans. Supports transfer functions and volumetric, diffuse, and clearcoat materials and uses voxel cone tracing.

Epic Games | *Unreal Engine Programmer Intern* — Summer 2019/2020

- Worked with the Sequencer team and related artists on Unreal's cinematics tools
- Created a new plugin for visualizing and manipulating the 3D motion trails of Actor component, Control Rig control, and skeleton bone transforms tracked by Sequencer.
- Renovated curve editor (write-up: git.io/JUju6), created primitive spline shape tools, improved usablilty of animated attachments. Shown here: youtu.be/j5OYgBputvs
  - On the curve editor tools (1:26:25): "This is awesome for camera work if you're trying to fine tune the camera, especially if you get into shakes, like camera shakes"
  - On spline generation tools (1:52:10): "It's awesome ... you can basically do a series of very complex [spline] curves and stuff, very quickly"

EDUCATION

UC San Diego — Class of 2023 (June)

- Computer Science (B.S./M.S.), GPA: 3.74, member of IEEE @ UCSD and ACM @ UCSD

PROJECTS

Vive Filmmaker (SDHacks) — git.io/fxoVy

- Led team to make a VR tool using Unity to help filmmakers film VFX/3D animations in a virtual scene with a virtual camera; won Advanced Technology & Innovation Prize.

Various class projects

- Implemented WDAS's "practical & controllable" hair model for CSE 168 (git.io/JPoCx).
- Implemented Adaptive Polynomial Rendering for CSE 274 (git.io/JPoW8).
- Modeled/rendered alpine sunset scene for CSE 272 (nickwn.github.io/alt/cse272.pdf).

SKILLS

Languages: C++, Java, Python, JavaScript, C#

Technologies: Unreal Engine, Unity3D, OpenGL, Vukan, Embree, OpenCV