Kevin Chen

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EDUCATION

Yale University New Haven, CT

B.S. Computer Science, GPA 4.0 *08/2019 – 05/2023*

Coursework Data Structures, Algorithms, Systems Programming, Operating Systems, Computer Graphics, Parallel Programming, Discrete Math, Linear Algebra

Leadership Co-President, Design at Yale; Creative Director, The New Journal

EXPERIENCE

Meta Reality Labs Burlingame, CA

Software Engineer Intern *05/2022 – 08/2022*

- Enhanced spatial map storage to improve the scalability of the SLAM stack in Meta's *Presence Platform*. Considered device power draw and memory management limitations. Used C++, Bash, adb.
- Worked on the SLAM tracking and spatial mapping team for Oculus 6DOF headsets.

Facebook Remote

Software Engineer Intern *06/2021 – 08/2021*

- Developed an internal service to automatically rebalance Twine jobs and containers for stateful services. Improved fault tolerance and machine utilization, freed up to 40k machines across all data centers.
- *Twine* is Facebook's cluster management system. Used Python, Thrift, SQL, and async Twine API.

Yale Peabody Museum New Haven, CT

Lead Developer *07/2020 – 05/2021*

- Led work on COPISClient, a desktop app which controls a multi-gantry photogrammetry imaging system.
- Designed toolpath generation, ViewCube navigation, OBJ importing, and scene object picking.
- Completely rewrote programmable OpenGL pipeline with shaders, reducing frame render times by >80%.
- Used Python, C++, OpenGL, GLM, GLSL. *Project link*.

Software Developer Intern *06/2020 – 07/2020*

- Redesigned UI, refactored entire directory structure and 3D viewport. Implemented arcball navigation.
- Used Python, wx, OpenGL, C++.

PROJECTS

OS Dev

- **2021.** Implemented a memory-mapped VGA 640×480 16-color video mode and syscalls in mCertiKOS. Added keyboard interaction and ability to playback GIFs. Used C, Assembly. *Demo video link*.

Graphics

- **2022.** Developed a real-time watercolor simulation with pigment flow effects based on *Curtis et al. 1997 Computer-Generated Watercolor*. Successfully implemented edge darkening, backruns, blooming, and granulation. Implemented forward Euler integration, staggered grid, used C++. *Project link*.
- **2021.** Developed ray tracer and video animation in C++. Implemented diffuse/Phong shading, mirror/glossy reflections, refractions/fresnel effects, soft shadows, supersampling, BVH, .obj loading. *Final render link*.
- **2019.** Developed an interactive WebVR experience to visualize 3D formula in the *DLMF* dataset. *Project link*. Work presented at the SIGGRAPH 2018 BOF session *Immersive Visualization for Research, Science and Art*.

WebVR

- **2019.** Developed Bulletin, a WebVR bulletin board for posting anonymous messages. Used JavaScript. Won the Best Gaming/VR Hack at YHack 2019, out of 140+ submissions & 400+ participants. *Project link*.

SKILLS

Coding C++, C, Python, Java, Bash, Thrift, Racket — Learning Assembly, JS, HTML/CSS

Tools UNIX, Git, OpenGL, Figma, Adobe Illustrator, Adobe InDesign