

Education	<b>Yale University</b> B.S. Computer Science w/ Honors, Summa Cum Laude (New Haven, CT) <b>Coursework</b> Algorithms, Data Structures, Systems Programming, Operating Systems, Linear Algebra, Computer Graphics, Physics Simulations, Graphic Design <b>Leadership</b> Co-President – Design at Yale, Creative Director – <i>The New Journal</i>	<b>May 2023</b>
Experience	<b>Software Engineer</b> Hive (San Francisco, CA) <ul style="list-style-type: none"><li>Designed &amp; developed end-to-end media processing pipeline to prepare media for model inference using Rust, FFmpeg, and libvips. Processes 23+ million images, videos, and audio a day.</li><li>Modernized file and codec support (avif/heif, av1/vp9), managed Mesos + Marathon deployments.</li><li>Wrote &amp; maintained performant Rust &amp; Lua code for moderation, language, transcription models.</li></ul> <b>Software Engineer Intern</b> Meta, Reality Labs (Burlingame, CA) <ul style="list-style-type: none"><li>Improved the scalability &amp; storage of spatial maps in the SLAM stack of Meta's <i>Presence Platform</i>.</li><li>Integrated coarse and fine location sources to improve localization and colocation performance on next-gen Oculus Quest VR/MR headsets. Used C++, Apache Thrift, Bash, adb.</li></ul> <b>Software Engineer Intern</b> Facebook (Menlo Park, CA) <ul style="list-style-type: none"><li>Developed &amp; designed Python service to improve machine utilization and fault tolerance by automatically rebalancing Twine containers. Freed ~40k machines across all datacenters.</li></ul> <b>Software Developer</b> Yale Peabody Museum (New Haven, CT) <ul style="list-style-type: none"><li>Led work on COPISClient, a desktop control app for a multi-camera photogrammetry system.</li><li>Developed &amp; redesigned OpenGL rendering pipeline, reducing frame render times by &gt;80%.</li><li>Developed &amp; designed GUI and 3D viewport, ViewCube navigation widget, scene object picking.</li><li>Used Python, wxWidgets, OpenGL/GLSL. <a href="#">Project link</a>.</li></ul>	<b>Aug 2023 – Jul 2024</b> <b>May 2022 – Aug 2022</b> <b>Jun 2021 – Aug 2021</b> <b>Jun 2020 – May 2021</b>
Projects	<b>font.fish font explorer</b> <a href="https://github.com/inchkev/font-fish">https://github.com/inchkev/font-fish</a> <ul style="list-style-type: none"><li>Built font.fish, a web tool to visualize &amp; explore the entire Google Fonts repository using ML.</li><li>Developed &amp; designed the website using JavaScript, Three.js, WebGL, and Flask. Live at <a href="https://font.fish">font.fish</a>.</li></ul> <b>Watercolor simulation</b> <a href="https://github.com/inchkev/watercolor">https://github.com/inchkev/watercolor</a> <ul style="list-style-type: none"><li>Developed real-time watercolor simulation in C++ with pigment flow effects based on the SIGGRAPH 1997 paper <i>Computer-Generated Watercolor</i>. Implemented edge darkening, backruns, blooming, and granulation. Built staggered grid, used forward Euler integration. <a href="#">Project link</a>.</li></ul> <b>Distributed ray tracer</b> <ul style="list-style-type: none"><li>Built a distributed ray tracer in C++ with diffuse/Phong shading, mirror/glossy reflections, refractions, soft shadows, and SSAA. Modeled &amp; rendered animation using CMU mocap dataset.</li><li>Implemented bounding volume hierarchy (BVH) to accelerate ray intersections. <a href="#">Final video link</a>.</li></ul> <b>Mathematical surfaces in WebVR</b> <ul style="list-style-type: none"><li>Developed interactive WebVR experiences to showcase 3D math functions in the <i>DLMF</i> dataset.</li><li>Shown at the SIGGRAPH 2018 BOF session <i>Immersive Visualization for Research, Science and Art</i>.</li></ul>	<b>2023</b> <b>2022</b> <b>2021</b> <b>2019</b>
Skills	<b>Programming</b> C++/C, Rust, Python, JavaScript/TS, Java, HTML/CSS. <i>Learning WebAssembly</i> <b>Tooling</b> Three.js, OpenGL, LaTeX, Figma, Adobe InDesign/Photoshop/Illustrator	