

Justin Hong

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EDUCATION

University of British Columbia

B.Sc, Major in Computer Science

Vancouver, BC

Sept. 2024 – Present

PROJECTS

OpenCV | *OpenCV, MATLAB*

July 2026 – Present

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Mini Blender | *C++, Vulkan, wxWidgets, GLM*

Mar. 2026 – July 2026

- Developed a cross-platform 3D graphics application utilizing Vulkan API and wxWidgets for the user interface
- Implemented asset loaders to parse and render 3D models and skeletal animations from .obj and .md5mesh/.md5anim file formats
- Integrated Axis-Aligned Bounding Boxes (AABB) and mouse raycasting to enable real-time 3D object selection and picking
- Engineered interactive camera controls, supporting smooth rotation, panning, and zooming via view matrix transformations

Mini Google Docs | *C++, wxWidgets, OpenSSL, Boost*

June 2025 – Feb. 2026

- Implemented a cross-platform client GUI application portable between Windows and Linux utilizing wxWidgets
- Integrated OpenSSL API to design a file data encryption mechanism leveraging AES-256 symmetric keys and RSA asymmetric key exchange.
- Architected a custom TCP binary protocol from scratch and established a data compression and obfuscation pipeline for enhanced network packet security.

TECHNICAL SKILLS

Languages: C/C++, Java, Python, SQL, JavaScript, HTML/CSS

Libraries & Frameworks: Vulkan, wxWidgets, OpenSSL, OpenCV

Developer Tools: Git, VS Code, Visual Studio, CMake