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## Employment History

### 2016–2025 **Linux Graphics, Software Engineer, Google**

- Maintained and developed Intel's Vulkan and OpenGL driver stacks for ChromeOS.
- Designed Linux's Vulkan API for external image import/export, `VK_EXT_image_drm_format_modifier`, in collaboration with multiple GPU vendors. Implemented the feature for Intel.
- Implemented features needed for Android, such as EGL fences, EGL front-buffer rendering, and Vulkan winsys integration.
- Assisted ChromeOS's migration away from OpenGL to a pure Vulkan stack.

### 2010–2016 **Linux Graphics, Software Engineer, Intel**

- Developed Intel's Vulkan and OpenGL drivers, in Mesa, for Linux, ChromeOS, Android.
- Co-founder of Intel's Vulkan Linux driver codebase.
- Implemented OpenGL and EGL features for Intel GPUs, such as MSAA, ETC1 compression, and separated depth/stencil buffers.
- Implemented GPU performance features, such as depth and color compression.
- Improved webpage loadtimes for Google Chrome by accelerating OpenGL texture uploads.
- Worked in the opensource community following standard practices: code submission and review occurred on mailing lists, Gerrit, and IRC.

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## Standards Contributions

### 2022–2025 **Chair, Vulkan System Integration TSG, Khronos via Google**

- Chaired the Khronos TSG responsible for Vulkan APIs for window system integration and for external resource sharing (memory, images, fences, semaphores).
- Guided the TSG's priorities. Set the weekly agenda. Moderated discussions. Reviewed and assisted contributions to the specification.
- Improved the TSG's velocity and meeting format, leading to higher participation from more member companies.

### 2016–2022 **Vulkan System Integration TSG, Khronos via Google**

- Designed Linux's Vulkan API for external image import/export, `VK_EXT_image_drm_format_modifier`, in collaboration several GPU vendors.
- Contributed to API designs for external resource sharing (memory, images, fences, semaphores).

### 2015–2016 **Vulkan Workgroup, Khronos via Intel**

### 2012–2014 **EGL Workgroup, Khronos via Intel**

- Major contributor to the EGL 1.5 Specification.
- Authored EGL extension specifications, namely the `EGL_EXT_platform` extension set. Implemented them in Mesa's EGL driver.

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## Skills

C, Python, Vulkan, OpenGL, EGL, Linux, ChromeOS, Systems Programming, Git, Bash

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## Education

2008–2010 **BS, Computer Science, Portland State University, Portland, Oregon, USA**

2002–2006 **BS, Mathematics, University of South Alabama, Mobile, Alabama, USA**

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## Language

English Native Speaker  
Japanese Studying, approximately JLPT N4