

Open source enthusiast and hacker specializing in web technology and linux-based system. WebKit and GNOME project contributor. More than 8 years experience at major players in the industry. Looking for opportunities in Web browser, Web Security & Privacy, Kernel, and Computer Graphics.

Skills WebKit, Blink/Chromium, GNOME, Linux, C/C++, Python, HTML/CSS/Javascript, Objective-C, Java, OpenGL/OpenGL ES, Clutter, Computer Graphics, GTK+, eBPF, BCC, Ethereum, Git, OBS, Clang, LLVM, GStreamer, Tizen, Linux Perf, Bluetooth LE, React Native, Embedded system

Education

08/2017 - 08/2019 **M.S. in Computer Science** (Computer Systems, GPA: 3.87 / 4.0), **Georgia Tech in Atlanta, GA, U.S.A.**
03/2000 - 06/2008 **Dual B.E. in Digital Media and Computer Engineering**, **Ajou University in South Korea**

Professional Experience

06/2019 - present **Intern at Igalia, S.L.** in A Coruña, Spain
• Bring ANGLE backend for WebGL to WebKitGTK

05/2019 - 08/2019 **Intern at Samsung Research America** in Mountain View, CA
• Built an automated system that verifies UI of a watch app by using Tizen automation framework
• Profiled memory usage and revealed possible memory leak of a watch app by using Valgrind
• Implemented file transfer via Bluetooth LE

08/2012 - 03/2016 **Software engineer at Collabora Ltd.** in Cambridge, UK
• Developed hardware based compositing based on Clutter in WebKit
• Resource efficient web browser based on GNOME Epiphany for Raspberry Pi 2+
• Customized WebKit features and API set for Smart TV Alliance SDK

07/2008 - 08/2012 **Assistant Software engineer at Samsung Electronics** in Suwon, South Korea
• Developed an in-house web layout engine for Smart TVs, Printers in C++
• Implemented WebGL and Accelerated Compositing in WebKit EFL by using OpenGL ES for Tizen

07/2007 - 06/2008 **Intern at Samsung Software Membership** in Suwon, South Korea
• Developed a 3D racing game using DirectX on Windows ([video](#))

Academic Experience

08/2017 - 08/2019 **Research assistant at School of Computer Science, Georgia Tech**
• Developed a defense system against micro DDoS by profiling resources with HPC (Intel PCM, MBM)
• Implemented an idle profiler that diagnoses off-cpu time in multi-threaded program using HPC
• Redesign chromium to block user tracking through web browser fingerprinting
• Contribute a project that aims to debloat chrome browser on the fly.

08/2019 - present **Teaching assistant at School of Computer Science, Georgia Tech**
• CS 6262: Network Security, Design and Implement the XSS task using node.js and Chrome Extension

Open Source Projects

04/2013 - present **Committer at WebKit** ([patches](#))
• Implemented OpenGL ES backend for Accelerated Compositing.
• Developed memory pressure handler that copes with out-of-memory on top of Linux cgroup.
• Enhance WebGL support and Fix layout and rendering issues
• Fix CVE security bugs in WebKit

10/2013 - present **Member at GNOME foundation** ([patches](#))
• Translate GNOME Web and its Help document in Korean

01/2015 - present **Contributor at Chromium/Blink** ([patches](#))
• Implemented a CSS spec called font-size-adjust
• Fix layout and rendering issues in blink

Patents

US 20110296323 Web page management method and apparatus and storage medium thereof
US 20110289110 Method of re-searching webpage and apparatus and storage medium therefor
US 20110093606 Interface method and display device
US 20110090165 Interface method and display device

Presentations

12/07/2014 Web Engines Hackfest 2014 in A Coruña, Spain ([slides](#))
09/29/2014 DEVIEW 2014 in Seoul, South Korea ([slides](#), [video](#))
04/25/2014 Jeju University in Jeju, South Korea ([slides](#))
10/27/2013 DevOn 2013 in Seoul, South Korea ([slides](#))