

Sungmann Cho

sungmann.cho@gmail.com

<https://linkedin.com/in/chosungmann>

<https://github.com/chosungmann>

OBJECTIVE

- ❑ Cross-Platform Applications Engineer
- ❑ Libraries Engineer
- ❑ Software Development Kits Engineer

SKILLS

- ❑ **Languages:** C, C++, Java, Python, Rust
- ❑ **Open Sources:** Chromium, Skia, WebKit
- ❑ **Platforms:** Android with NDK/PDK/SDK, Windows with SDK/WTL
- ❑ **Toolchains:** Autotools, CMake, Emscripten, GN
- ❑ **Toolkits:** Flutter, Qt

EXPERIENCE

❑ [NCSoft](#)

SEPTEMBER 2022—PRESENT

NC CRASH REPORTER SDK 2: A [Sentry.io](#)-like crash reporter SDK for in-house games [work in progress]

- Designed and developed the entire SDK using Rust, along with a testbed application to demonstrate and test its features using Flutter.
- Added support for five operating systems (Android, iOS, Linux, macOS, Windows), two game engines (Unity, Unreal Engine), and three languages (C++, Kotlin, Swift) using Autocxx and UniFFI.
- Built a continuous integration and delivery pipeline using GitHub Actions.

Faceware Batcher: A [Faceware](#)-based batch processing application for facial motion capture in in-house games

- Designed and developed the entire application using Flutter.
- Wrote a MEL script for retargeting in Python.

FOSS: A [Open Source Insights](#)-like open source compliance service for in-house services

- Designed and developed the entire service including a dedicated CLI tool, GitHub App, and website using Node.js, React, and Rust.

❑ [VOYAGERX](#)

SEPTEMBER 2021—JULY 2022

VREW: A [DESCRIPT](#)-LIKE AI-ASSISTED VIDEO EDITOR

- Designed and developed a minimum viable product of Ultra Captions, a broadcast-quality dynamic captions and effects feature, using FFmpeg, Lottie, and Puppeteer.
- Designed and developed a cross-platform CLI tool to manage fonts installed on the operating system using Rust.
- Fixed various bugs related to subtitle rendering using FFmpeg and `libass`.

❑ [NAVER](#)

DECEMBER 2011—AUGUST 2021

TITAN DATASETS: A [KAGGLE DATASETS](#)-LIKE DATASETS SERVICE FOR NAVER WEBTOON

- Designed and developed a minimum viable product using Spring Boot and Vue.js.
- Performed various prototyping tasks.

CLOVA SEE: A REAL-TIME DEEP LEARNING-BASED COMPUTER VISION SDK

- Designed the overall architecture.
- Developed the entire SDK along with testbed applications to demonstrate and test its features using Boost, NCNN, and OpenCV, excluding the deep learning models and their pre- and post-processing layers.
- Added support for five operating systems (Android, iOS, Linux, macOS, Windows) and three languages (JavaScript, Kotlin, Python) using Emscripten, Java Native Interface, and Pybind11.
- Built a continuous integration and delivery pipeline using Jenkins.
- Deployed in various products and services including CLOVA FaceSign, LINE Pay, and NAVER LABS ARC.
- Obtained the K-NBTC certification (BSC 20-008).

NAVER LABS AWAY: AN AI-ASSISTED IN-VEHICLE INFORTAINMENT PLATFORM

- Maintained various features of the main carousel screen on Android using Java.
- Integrated with various NAVER services including AudioClip, Booking, Calendar, CLOVA, Sports, and Vibe.

[NAVER WHALE](#): A CHROMIUM-BASED WEB BROWSER

- Designed and developed various features including [Block Intrusive Ads](#), [Capture](#), [Mobile Window](#), and [Skin](#) using Chromium.
- Fixed various bugs in Chromium:
<https://github.com/chromium/chromium/commits/master?author=sungmann.cho@navercorp.com>

JACKBEAN: A WEBKIT2-BASED WEB BROWSER FOR INTERNAL RESEARCH

- Designed the overall architecture.
- Developed various features including a popup blocker, browser windows, common UIs, and infobars using Qt.

- Developed various facilities including color and image operations, special purpose RAII classes, and STL extensions using C++.

SLING: NAVER'S OWN PORT OF WEBKIT2

- Designed and developed the WebView embedder framework and its APIs using WebKit2.
- Maintained various WebKit2 features using NAVER's own cross-platform solution.
- Ported `PluginProcess` to support Netscape Plugins (NPAPI) on Windows.
- Ported WebKit2 IME facilities on Android.
- Fixed various bugs in WebKit2:
<https://github.com/search?q=repo:WebKit/WebKit+sungmann.cho@navercorp.com&type=commits>

NAVER WEB ENGINE: A CHROMIUM-BASED ALTERNATIVE TO ANDROID WEBVIEW

- Designed the overall architecture.
- Developed the WebView embedder framework and its APIs using Chromium.
- Deployed in various services including NAVER Apps and LINE Play.

HIGGS: AN EXPERIMENTAL ANDROID WEB BROWSER

- Designed and developed the entire application based on Android Stock Browser using Java.
- Fixed various bugs in Android Stock Browser:
<https://android-review.googlesource.com/q/sungmann.cho@navercorp.com>

❑ DAUM COMMUNICATIONS¹

FEBRUARY 2010—SEPTEMBER 2011

MY PEOPLE: YET ANOTHER SOCIAL MESSAGING APP

- Developed and maintained the almost features on Android including chats, contacts, geolocation sharing, media sharing, photos, push notifications, themes, and voice memos using Java.

❑ INFRAWARE²

JANUARY 2009—JANUARY 2010

POLARIS 7 FOR ANDROID: A WEBKIT-BASED ANDROID WEB BROWSER

- Researched the `surface`-based rendering on the native side for high performance browsing.

POLARIS 7: A WEBKIT-BASED NON-SMARTPHONES WEB BROWSER

- Designed and developed the Safari-like magnifier for easy IME operations using C++.
- Designed and developed some hardware accelerated effects for rotation, zoom-in, and zoom-out using C++ and OpenGL ES.
- Researched the Skia-based backend for `WebCore::GraphicsContext2D` and the memory efficient chinese font glyph caching strategies for FreeType.

¹ Acquired by [Kakao](#) in 2014

² Changed to [Polaris Office](#) in 2021

EDUCATION

- ❑ **Bachelor Science of Computer Science**
Dankook University, Gyeonggi-do, Korea

HONORS AND AWARDS

- ❑ **Top 10 Best Technologies, N Innovation Award 2020**
NAVER
- ❑ **Encouragement Award, Open Source Software Challenge 2008**
Ministry of Science, ICT and Future Planning

PUBLICATIONS

- ❑ [커맨드라인 러스트 `cat, grep, ls` 등 14가지 유용한 CLI 도구를 클론 코딩하며 배우는 러스트 활용](#)
Authors: Ken Youens-Clark
Publisher: Jpub
Date: August 5, 2024
- ❑ [프로그래밍 러스트, 개정 2판](#) [빠르고 안전한 시스템 개발](#)
Authors: Jason Orendorff, Jim Blandy, Leonora Tindall
Publisher: Jpub
Date: January 16, 2023
- ❑ [레일스와 함께하는 애자일 웹 개발, 개정판](#)
Authors: Dave Thomas, David Heinemeier Hansson, Sam Ruby
Publisher: Insight
Date: May 29, 2012
- ❑ [프로페셔널 안드로이드 2 애플리케이션 개발, 2판](#)
Authors: Reto Meier
Publisher: Jpub
Date: September 17, 2010
- ❑ [프로페셔널 안드로이드 애플리케이션 개발](#)
Authors: Reto Meier
Publisher: Jpub
Date: July 24, 2009
- ❑ [Qt 4를 이용한 C++ GUI 프로그래밍, 2판](#)
Authors: Jasmin Blanchette, Mark Summerfield
Publisher: ITC
Date: March 17, 2009