

# Sujin Han

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Github: [github.com/vilotgit](https://github.com/vilotgit)

Country of Residence: Republic of Korea

## EDUCATION

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- **Korea Advanced Institute of Science and Technology** Daejeon, Korea  
*MS-PhD Integrated Program - Electrical Engineering* Feb 2022 -  
GPA: 4.21/4.3  
Advisor Sung-Ju Lee  
Courses: Software Security, Security of Emerging Systems, Machine Learning Application Trends in Information Security, Advanced Big Data-AI Integration, Speech Recognition Systems, Advanced Computer Networking and Cloud Computing
- **Korea Advanced Institute of Science and Technology** Daejeon, Korea  
*Bachelor of Engineering - Computer Sciences; Minor in Intellectual Property* Aug 2017 - Feb 2022  
Major GPA 3.94/4.3, Total GPA 3.78/4.3, Cum Laude  
Courses: Computer Networking, Operating Systems, Computer Architecture, AI/ML, NLP, Programming Language, Compiler Design, Concurrent Programming, Algorithms, Data Structures

## RESEARCH EXPERIENCE

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- **Networking and Mobile Systems Laboratory (NMSL)** Daejeon, Korea  
*Undergraduate Research Intern, Graduate Student* Aug 2020 - Present
  - **Micro-virtualization on Android:** Contributed to a project that avoids Android compatibility crashes through micro-virtualization. Modified AOSP code to support micro-virtualization on emulators and devices. Wrote custom script to measure per-process memory overhead. Paper submitted to MobiSys 2024 for review.
  - **Content Moderation on Android:** Contributed to a project that aims to understand and support interactions between people with eating disorders and digital food content. Implemented a service that identifies and hides food content on YouTube as an Android app. Paper focused on the system contributions is submitted to CHI 2024 for review. The preprint of another paper focused on understanding the interactions is available on arXiv. Paper link: <https://arxiv.org/abs/2311.05920>
  - **Voice Phishing App Detection (Lead):** Designed and implemented a static signature-based voice phishing app detection system. Achieved F1 score of 0.93 on around 200 phishing apps and 200 non-phishing apps. Work done in collaboration with one of the top mobile companies in the world. Currently filing for a patent.
  - **Automatic Exploit Generation for Smart Contracts (Lead):** Leading a project on smart contract security. The goal of the project is to detect vulnerable smart contract combinations on-chain and automatically generate financially profitable exploits for previously identified vulnerable contracts with generation-based fuzzing. Modified foundry, an open source Ethereum application toolkit written in Rust, to implement a fuzzer on Rust-based Ethereum VM.
- **Natural Language Processing and Computational Linguistics Lab (NLPCL)** Daejeon, Korea  
*Individual Research* Dec 2018 - Feb 2019
  - Compared Support Vector Machine and Naïve Bayes model for identifying sentiment in movie review data.

## PROJECTS

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- **Simple OS Implementation (OS):** Course project for CS530. Completed JOS projects, a set of labs designed to enhance different OS functionalities, such as scheduling and memory management, in a team of 2. (Aug 2021 - Dec 2021)  
Project description: <https://github.com/casys-kaist/jos>
- **Simulated TCP Layer Implementation (Computer Networking):** Course project for CS341. Completed KAIST Education Network System projects (KENSv3) in a team of 2. (Mar 2021 - July 2021)  
Project description: <https://github.com/ANLAB-KAIST/KENSv3>
- **Intoxicated Speech Detection (AI, Speech Recognition):** Course project for CS470. Developed a CNN model that can detect whether a person is sober or intoxicated given her speech data in a team of 3. (Aug 2020 - Dec 2020)  
Github: <https://github.com/vilotgit/kaisd>
- **Social Platform for Musicians (Social Computing, Web):** Course Project for CS473. Developed a web app to support remote collaboration amongst amateur musicians in a team of 4. Core functionalities include personal profile pages and communication tools designed for musical collaboration (shared annotatable sheet music, commenting threads that can be pinned to shared sheet music, music term dictionary). (Aug 2020 - Dec 2020)  
Github: <https://github.com/SangHyeon-Lee/PitchPerfect>
- **Pintos Projects (OS):** Course project for CS330. Completed pintos-kaist projects, simulated OS development on x86-64 architecture, in a team of 2. (Mar 2020 - July 2020)  
Project description <https://casys-kaist.github.io/pintos-kaist/>
- **KAIST Puple Online Labyrinth (Web):** Developed the front end of an online labyrinth website. (Dec 2019 - Feb 2020)  
Link: <https://kaistpuple.com/present/main.php>
- **Simple C Compiler (Compiler Design):** Course project for CS420. Developed a compiler that can compile basic C code in a team of 5. Used lex, yacc, and C++ to build the compiler. (Aug 2019 - Dec 2019)

- **FastText Evaluation with Unusual Corpora (AI, NLP):** Course project for CS492. Work done in a team of 3. Produced two sets of subword vectors using fastText (from Enriching Word Vectors with Subword Information, ACL 2017) with two different sets of corpora and compared the performance of two sets of subword vectors. (Aug 2019 - Dec 2019)  
Poster link: <https://bit.ly/fasttext-eval-poster>
- **Development Camp (Android, Web, Unity):** Developed an Android app that recognizes handwritten numbers and helps kids practice basic arithmetic skills, an online platform for learning and coding in Scala, a set of mini games running on Unity engine. (June 2018 - Aug 2018)

## HONORS AND AWARDS

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- **Students with Outstanding Questions (EE595 Software Security)**  
*Awarded to students that asked challenging and creative questions* *Spring 2022*
- **Dean's List in College of Engineering**  
*Awarded to top 3% among 2900+ students in college of engineering at KAIST* *Fall 2020*

## TEACHING EXPERIENCE

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- **Head Teaching Assistant at KAIST**  
*Operating Systems and System Programming for Electrical Engineering (EE415)* *Fall 2023*  
*Professor: Sung-Ju Lee*
- **Head Teaching Assistant at KAIST**  
*Introduction to Environment and Tools for Modern Software Development (EE485)* *Spring 2023*  
*Professors: Sung-Ju Lee, Dongsu Han*
- **Teaching Assistant at KAIST**  
*Mobile Computing, Sensing, Learning, and Interactions (EE595)* *Fall 2022*  
*Professor: Sung-Ju Lee*
- **Teaching Assistant at KAIST**  
*Computer Networks (EE323)* *Spring 2022*  
*Professor: Sung-Ju Lee*

## SKILLS SUMMARY

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- **Languages:** Korean(native), English(fluent), Mandarin(intermediate)
- **Confident Programming Languages:** Python, Java, Kotlin, C, Rust, Solidity
- **Platforms:** Android, Linux