

SEUNGJOO LEE

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EDUCATION

KAIST (Korea Advanced Institute of Science and Technology)

Mar 2016 - Present

B.S. in Computer Science major

Major GPA : 4.13/4.3 — Total GPA : 4.0/4.3

M.S. in Electrical Engineering

Expected graduation date : Sep 2022

Major Courses

Computer vision, Sensor data science, Operating system(Undergraduate, Graduate), Introduction to AI, Mobile computing and applications, Parallel computing, Big data analytics using R, Computer networks, Algorithms, Computer organization(Undergraduate, Graduate), Probability and statistics, Linear algebra

WORK EXPERIENCES

Internship at Samsung Electronics

Jul 2021 - Aug 2021

MX (mobile experience) division, AI server development team

Developing RESTful server using Spring boot

Selected as the **best project** in the division

Won **first place** in team Creathon project

Presenting a new business item that Samsung can do

Suggested a new business idea

Internship at SK Hynix

Dec 2017 - Jan 2018

NAND development branch, Solution algorithm division

Optimizing NAND-simulation program

Selected as the **best project** in the branch

PUBLICATIONS

FedTherapist: Mental health monitoring with user-generated linguistic expressions on smartphones via federated learning

Jaemin Shin, Hyungjun Yoon, **Seungjoo Lee**, Sungjoon Park, Yunxin Liu, Jinho D. Choi, Sung-Ju Lee

[EMNLP 2023](#), [conference page](#)

MyDJ: Sensing food intakes with an attachable on your eyeglass frame

Jaemin Shin, **Seungjoo Lee**, Taesik Gong, Hyungjun Yoon, Hyunchul Roh, Andrea Bianchi, Sung-Ju Lee

[CHI 2022](#), **Honorable mention award** (top 5%) | [conference page](#) | [project website](#) | [video](#)

Accurate eating detection on a daily wearable necklace (demo)

Jaemin Shin, **Seungjoo Lee**, Sung-Ju Lee

[Mobisys 2019 Demo](#)

Held poster presentation and demonstration at the conference

High school arduino

Book written by SADA (embedded software club), published by Jpub | [Book introduction](#)

Chapter 4, 7, and 13 are written by me

An optimal path of navigation based on fractal dimension

Sangjun Lee, Yonghwi Kim, **Seungjoo Lee**, Ungyeol Jung, Daeun Kyung

Proc. Korea Computer Education Society Conference., Vol. 19-1, 113-118

The order of the names was randomly determined

RESEARCH EXPERIENCES

Smartphone-based early depression diagnosis with a user's daily linguistic expressions via federated learning

Nov 2021 - Present

Research intern at [NMSL](#), KAIST

Implemented federated learning with pytorch.

Reproduced [FedAWS paper](#) to handle clients with only positive label, and tested the performance with various dataset (FeMNIST, CIFAR10, Human activity recognition)

Sensing food intakes with an attachable on your eyeglass frame

Dec 2018 - Nov 2021

Research intern at [NMSL](#), KAIST

Published at CHI 2022, **Honorable mention award** (top 5%) | [conference page](#) | [project website](#) | [video](#)

Contributed the whole research process; problem definition, implementation, user study, writing

Optimizing TLB shutdown

Mar 2018 - June 2018

Individual research at [CALAB](#), KAIST

Analysis of linux kernel using cscope, ctags and ftrace

Analysis of unnecessary TLB shutdowns using ftrace and systemtap

An optimal path of navigation based on fractal dimension

Mar 2014 - Sep 2015

Research and education program (RnE) in high school

Implemented fractal-dimension calculating program

Awarded at [Samsung Humantech](#) paper award

PROJECTS

Context-aware automatic video screen manipulation using trajectory tracking

Sep 2021 - Dec 2021

Team Project [report](#) | [video](#)

Manipulating Youtube (rotate, zoom, relay from smartphone to laptop) using user head location & orientation

Implemented head tracking using Arduino & bluetooth connection between laptop, smartphone, and Arduino

DeltaCNN

Sep 2019 - Dec 2019

Team Project [report](#)

Fast calculation of convolutional layers in continuous video streams using the fact that the video scene does not change significantly

GraspTracker

Sep 2019 - Dec 2019

Team Project [report](#)

Detecting smartphone grasp posture using inaudible sound

SPADE-based Line Art Colorization

Sep 2019 - Dec 2019

Team Project [report](#)

SPADE-based model that colorizes a given line art image using a hint image

Pintos

Mar 2019 - Jun 2019

Team Project

Implemented 4 sub-projects of [pintos](#) (threads, user programs, virtual memory, file system) with perfect score

Implementation of TCP protocol (KENS)

Sep 2018 - Dec 2018

Solo Project

Key components of TCP including connection establishment, connection teardown, reliable data transfer, flow control, and congestion control implemented with C++

WPDIP: Utility-based way partitioning using dynamic insertion policy

May 2018 - June 2018

Team Project [report](#)

Implemented new cache replacement policy using ZSim simulator

My role : writing proposal, implementing WPDIP using ZSim simulator, testing it using parsec benchmark, analyzing the result, writing term paper, presenting it in the class

AWARDS & HONORS

KAIST 2023 Whole Person Development Award (KAIST Board of Trustee Chairpeson's Prize)

Feb 2023

Awarded to top 2 (0.28%) out of 715 students, who demonstrated outstanding performances in various activities as well as in grades. Awarded at the commencement ceremony

Engineering Innovator Award

Sep 2022

Awarded to students showing outstanding performance in extracurricular activities, including academic publications, entrepreneurial activities, exhibitions, and inventions

Five students are picked from college of engineering each semester

Honorable mention award

Mar 2022

CHI 2022, among the top 5% of all submissions

Dean's List

Spring 2019, Fall 2019

Awarded to top 5% students in department each semester

National excellence scholarship

Fall 2018 - Fall 2019

EXTRA-CURRICULAR ACTIVITIES

KATUSA

Dec 2019 - Jun 2021

Served national service at eighth army as a KATUSA

Provided translation between US and Korean army

International students organization (ISO)

Sep 2016 - Dec 2019

Introduce Korean culture to international students

CS101 tutor

Spring 2017, Fall 2017, Spring 2022

Helped 5 freshman studying CS101 (introduction to programming)

Embedded software club

Mar 2014 - Dec 2015

Been a leader for a year

Published book about doing scientific experiments using Arduino

SKILLS

Computer skills

Languages

C/C++, Python, Kotlin, Java

Platforms/Frameworks

Android, Pytorch, Tensorflow, Spring boot, Arduino

Video Softwares

Vegas, AfterEffect, Premier

Languages

Fluent in English and Korean

TOEIC 955 (Tested in 2022)