

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 Total GPA : 4.12/4.3
Expected graduation date : Sep 2024

Major Courses

Mobile computing and applications, Sensor data science, Advanced big data-AI integration, Big data analytics using R, Deep learning for NLP, Bias and ethics in NLP, Reinforcement learning, Introduction to AI, Computer vision, Operating system(Undergraduate, Graduate), Parallel computing, Computer networks, Computer organization(Undergraduate, Graduate)

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](#) | [paper](#)

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%) | [paper](#) | [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

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
Published EMNLP 2023 | [paper](#)
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)
Pre-training LLMs with large corpus (BERT, RoBERTa) and distillation of pre-trained model into small models (DistilBERT)

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%) | [paper](#) | [project website](#) | [video](#)
Contributed the whole research process; problem definition, implementation, user study, and 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

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

PROJECTS

Will Overly Polite Sentences Harm Model Performance? Adversarial Pragmatic Perturbation for NLP

Mar 2023 - Jun 2023

Team Project [report](#)

Adversarial attack on LLM model with tone perturbation and its defense

Validating Labeling Functions in Domain Shift

Sep 2022 - Dec 2022

Team Project [report](#)

Domain shift detection using programmatic weak supervision

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

GraspTraker: Tracking smartphone grab posture with inaudible sound

Sep 2019 - Dec 2019

Team Project [report](#)

Detecting smartphone grasp posture using inaudible sound

Pintos

Mar 2019 - Jun 2019

Team Project

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

AWARDS & HONORS

KAIST 2023 Whole Person Development Award (KAIST Board of Trustee Chairperson'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

Awarded to top 5% students in department each semester

Spring 2019, Fall 2019

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)