

# Seokchan Ahn

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## EDUCATION

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### University of California Irvine

June 2023 (expected)

Master of Science in Computer Science

Irvine, CA

- Coursework: Introduction to AI, Machine Learning, Distributed Computer Systems, Advanced Compiler Construction
- Scholarship: Korean National Graduate Scholarship for Studying Abroad, \$40,000/year, 2021-2023

### Seoul National University

Aug 2018

Bachelor of Science in Computer Science, Bachelor of Business Administration

Seoul, Korea

- Coursework: Algorithms, Data Structure, OOP, Computer Architecture, Operating Systems, Statistics, Linear Algebra
- Thesis: Improving Natural Language Reading Performance with Extended Skim-RNNs

## WORK EXPERIENCE

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### Samsung Research, Samsung Electronics

Jul 2018 – Jul 2021

Software Engineer at Neural Machine Translation Team, Natural Language Processing Lab

Seoul, Korea

- **Text Translation Service:** Trained text translation models using a framework in C++ and deployed the models through Docker containers with a latency of 200ms or less for internal web service and Samsung Bixby
- **On-Device Text Translation:** Compressed machine translation models with less than 1% performance degradation by applying various compression techniques such as quantization with TensorFlow for a Samsung Internet browser extension
- **Multinode Distributed Training:** Enabled model training using up to 64 GPUs and eight times bigger batch size by fixing a multi-node training bug in PyTorch
- **Corpus Manager:** Facilitated Data-Centric AI approach and made experiments reproducible which led to a 50% increase in efficiency by building a data management tool that automates preprocessing and model evaluation with Python
- **Simultaneous Translation:** Achieved an 8% improvement in translation performance by devising a novel method to generate simultaneous translation style sentences; Implemented and visualized with Python and wrote a research paper
- **Speech Translation:** Improved the translation performance by 6.6% by applying a dual-decoder transformer architecture for speech translation task with TensorFlow

### Korean National Police Agency

Jan 2014 – Oct 2015

Software Developer

Seoul, Korea

- **Security Equipment Management System:** Led the development and maintenance of a web-based ERP system as a full-stack developer with LAMP (Linux, Apache HTTP, MySQL, PHP) stack; Used in 1,731 police offices in South Korea
- **Mobile Statute Book:** Developed a statute book Android application with Java for police using the Korean Ministry of Justice APIs; Downloaded 100+ times and rated 4.5+

## PROJECTS

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- **Node Labeling API for Apache REEF:** As a Google Summer of Code 2017 participant with the Apache REEF, designed and implemented a node labeling API in Java for cluster resource managers such as Hadoop YARN and Mesos
- **Indoor Positioning Cart:** Orchestrated sensors to position a cart indoors with C++ and Python; Won \$5,000 at 2016 Samsung Electronics IoT Innovation Challenge
- **Data Transfer through Camera:** Built an Android app with Java that can transfer files through a series of QR codes; Awarded \$5,000 at 2015 LG CNS IoT Hackathon
- **IoT-powered Gym:** Built a web-based system with LAMP stack that automates logging workouts with ultrasonic distance sensors; Received \$3,000 at 2014 LG CNS IoT Hackathon
- **Offloading Convolution Kernel to FPGA:** Offloaded tiled convolution kernel to FPGAs with OpenCL as a part of the OpenDNN project to achieve about 5 times better energy efficiency than GPUs

## SKILLS

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- **Programming Language:** Python, C++, Java, JavaScript, SQL, PHP, Shell (Bash)
- **Other:** Linux, Git, Docker, AWS / Node.js, Apache HTTP, MySQL, HTML, CSS, Android / TensorFlow, Keras, PyTorch