Sangsu Lee (Seth)

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EDUCATION

The University of Texas at Austin, *Austin, TX*
M.S. in Computer Engineering *Dec 2020 (expected)*
Courseworks: Distributed Computing, Advanced Programming Tools, Reinforcement Learning, Programming Blockchain, Mobile Computing, Software Evolution, Data Science Lab

Sungkyunkwan University, *Seoul, Korea*
Bachelor of Electrical and Electronics Engineering *Aug. 2018*
GPA 3.97/4.5 (major)
Deans List Awards (Fall & Spring 2016), Merit-Based Scholarship (Fall 2015 – Spring 2016; Ranked at Top 3%)
Courseworks: Project-based Machine Learning, Intro to Machine Learning, Computer Vision ...

SKILLS & PROFESSIONAL TRAINING

Language C++, Python, Java, Kotlin, Bash, MATLAB, ARM/x86, VHDL, LaTeX
Tools Linux, Intellij, Android Studio, XCode, Visual Studio, Docker, AWS, Tensorflow, Keras, OpenGL
Web Development Javascript, HTML, CSS, AngularJS, Spring, Flask, MongoDB

ACADEMIC PROJECTS

REMINISCE: Transparent and Contextually-Relevant Retrospection - *IEEE PerCom 2019* *Mar. 2019*
- Developed a mechanism for deriving context attributes from real-world data and transparently recalling associated data
- Invented 'context vector' which determines contextual distance and designed a middleware for context-dependent services
- Implemented recommendation app on Android with SQLite database using room persistence library

Static Analysis for Securing Android Inter-Process Communication - *EE382V Software Evolution* *Dec. 2018*
- Created testing tool to identify security vulnerability in Android that can't be detected with FlowDroid or Checker Framework
- Statically analyzed data flow in Android intents by building abstract syntax tree with JavaParser

Unsupervised Monocular Depth Estimation using DenseNet - *Sungkyunkwan University* *Jul. 2018*
- Designed model which generates depth map from only monocular data rather than pictures from 2+ cameras
- Trained model without ground truth depth data using self-modified DenseNet (CNN) in Tensorflow and Keras
- Won 3rd prize among 300+ participants in the senior design project competition

Qualcomm IT Tour - *Qualcomm Inc.; San Diego, CA* *Aug. 2018*
- Pitched a business model on wireless communications for autonomous cars using drones
- Gave presentation to the Qualcomm Executive Chairman and selected as best presentation

PROFESSIONAL EXPERIENCE

Mobile & Pervasive Computing Lab - *Research Assistant; Austin, TX* *Jun. 2019*
- Leading a team to develop a full-stack web application for motivating physical activities of children; projectsmart.ece.utexas.edu
- Deployed with an RFID tag where students can check in and record their activities according to class curriculum

Ubiquitous Computing Lab - *Research Assistant; Seoul, Korea* *Dec. 2018*
- Proposed a scheme that optimizes distributed machine learning in edge network by dynamically controlling the level of delay
- Proved its efficiency over conventional methods with Java-based simulation in terms of computation cost

Software Design & Implementation - *Teaching Assistant; Seoul, Korea* *Aug. 2018 – Dec. 2019*
- Planned and led 5-hr. weekly sessions on C/C++ programming, GNU tools, data structures, and algorithms
- Wrote testing scripts for grading assignments with Google Test, Python, Bash and Moss

PUBLICATIONS

› **Sangsu Lee**, Tomasz Kalbarczyk, and Christine Julien. "REMINISCE: Transparent and Contextually-Relevant Retrospection". In: *2019 IEEE International Conference on Pervasive Computing and Communications Workshops (PerCom Workshops)*. IEEE. 2019, pp. 355–357.

› **Sangsu Lee**, Taeho Lee, Yili Wang, and Hee Yong Youn. "Dynamically Adjusting the Stale Synchronous Parallel Model for Edge Computing". In: *Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA)*. The Steering Committee of The World Congress in Computer Science, Computer … 2019, pp. 93–99.

› Chenguang Liu, Jie Hua, Tomasz Kalbarczyk, **Sangsu Lee**, and Christine Julien. "Dataset: User side acquisition of People-Centric Sensing in the Internet-of-Things". In: *Second Workshop on Data Acquisition To Analysis at Embedded Networked Sensor Systems (SenSys)*. ACM. 2019.