

Eugene Caroline Shin

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RESEARCH INTEREST

Federated Learning, Machine Learning, Fairness, Optimization

EDUCATION

The Ohio State University Aug. 2019 - Present
Columbus, OH, USA

- Ph.D. in Computer Science and Engineering (*In Progress*)

Chung-Ang University Mar. 2015 - Feb. 2019
Seoul, Korea

- Bachelor of Science in Electrical and Electronics Engineering

University of Hawaii at Manoa Aug. 2016 - May. 2017
Honolulu, Hawaii

- Exchange Student

PUBLICATIONS

1. M.Nafea, E.Shin, A.Yener.(2022, June) *Proportional Fair Clustered Federated Learning*. International Symposium on Information Theory(ISIT), Oulu, Finland

2. E.Shin, J.Joung, J.Choi.(2018, Jan.) *Source-node-independent 2-by-2 linear precoder for amplify-and-forward two-way-relay with two antennas*. Presentation at International Conference on Electronics, Information, and Communication(ICEIC), Sheraton Waikiki Hotel, Honolulu, Hawaii, USA

3. E.Shin, S. Choo, J.Joung, J.Choi.(2017, Nov.) *Energy Harversting and Transmission Time Allocation Method for Wireless Sensors*. Poster session presented at the Korean Institute of Communications and Information Sciences(KICS) Fall Conference, Kyungpook National University, Daegu, South Korea

EXPERIENCE

Graduate Researcher, The Ohio State University May. 2020 - Present
INSPIRE Laboratory, (Advisor: Aylin Yener) Columbus, OH

- Currently working on Federated Learning, trying to achieve fairness in distributed setting

Research Assistant, Chung-Ang University Sept. 2017 - Jan. 2018
Wireless Systems Laboratory, (Advisor: Jingon Joung) Seoul, Korea

- Studied and researched in wireless communications, including energy harvesting and designing linear precoders

Research Assistant, University of Hawaii at Manoa Nov. 2016 - May. 2017
(Advisor: Narayana Santhanam) Honolulu, Hawaii

- Participated in projects on machine learning with giving data to a graduate student
- Learned feature programs and various models related to machine learning

TECHNICAL SKILLS	Programming Languages C/C++, Python, Java, Assembly(ARM, x86-64), Verilog S/W Packages MATLAB, LaTeX, Office
TEACHING EXPERIENCE	CSE-1222 Introduction to Computer Programming in C++ for Engineers, OSU Aug. 2021- May. 2022 <ul style="list-style-type: none"> • Holding Lab sessions and holding office hours related to course • Grading quizzes, midterm exams and final exam CSE-5243 Introduction to Data Mining, OSU Jan. 2021- May. 2021 <ul style="list-style-type: none"> • Grading homeworks, projects, data competitions and holding office hours related to course
ACADEMIC BACKGROUND	Mathematics Linear Algebra, Calculus I/II, Advanced Engineering Mathematics, Electrical Engineering Mathematics, Numerical Analysis, Discrete Math for Engineers, Probability and Statistics, Machine Learning and Statistical Pattern Recognition, Algorithms, Real Analysis I/II, Introduction of Static and Dynamic Optimization, Foundations of Differentially Private Data Analysis Computer Engineering & Communication Computer Programming, Data Structures, Microcomputer Systems, Computer Architecture, Operating Systems, Signal and Systems Analysis, Communication Engineering, Mobile Communication, Introduction to Data Mining, Advances Operating Systems, Programming Languages
HONORS & AWARDS	Honors Dean's List, University of Hawaii at Manoa (Fall 2016 & Spring 2017) Awards Practical Education Program Certificate with Scholarship (Aug. 2018) Scholarship for Volunteer of Engineering/ICT Engineering Department (Sept. 2018, Mar. 2018) College of ICT Engineering Lucid Pole Portfolio Award for Excellence (Nov. 2017) Study Group Program Certificate of Completion with Scholarship (Dec. 2017)
LANGUAGE PROFICIENCY	Fluent in English , Native in Korean <ul style="list-style-type: none"> • IBT TOEFL: 105 (Reading: 28, Listening: 29, Speaking: 26, Writing: 22) • New GRE: Verbal (155, 69%), Quantative (169, 97%), Writing (3.5, 42%)