Christina Shin

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EDUCATION

University of Southern California, Los Angeles, USA

- Currently Pursuing Ph.D. in Computer Science — Aug 2019 – Present
  - Interest: 3D Sensing, LiDAR Sensing, 3D Reconstruction, Cooperative Perception, Connected Vehicles, Autonomous Vehicle Systems, Mobile Network Systems

Ewha Womans University, Seoul, South Korea

- M.S. in Computer Science and Engineering — Mar 2017 – Feb 2019
  - Thesis Title: Network Diagnosis and Reconstruction in Vehicular Ad-Hoc Networks
- B.S. in Computer Science and Engineering — Mar 2012 – Feb 2017

PROFESSIONAL EXPERIENCE

Networked Systems Laboratory, University of Southern California

Research Assistant (Advisor: *Prof. Ramesh Govindan*) — Aug 2019 – Present

- Currently working on traffic scene reconstruction through opportunistic 3D sensing
  - Focus: 3D sensing, 3D reconstruction, Cooperative Perception, LiDAR, Autonomous Vehicle Systems
- Have investigated a research on centralized vehicle perception and planning through infrastructure-based sensing
  - Focus: 3D sensing, LiDAR, Perception, Planning, Autonomous Vehicle Systems
- Have participated in a research on 3D building reconstruction using drones equipped with 3D sensors
  - Focus: 3D sensing, 3D reconstruction, LiDAR, Drones

General Motors Research and Development, Warren, USA

Research Intern (Mentor: Chuan Li and Fan Bai) — May 2021 – Aug 2021

Intelligent Networked Systems Laboratory, Ewha Womans University

Research Assistant (Advisor: *Prof. HyungJune Lee*) — Jan 2017 – May 2019

- Conducted a research on traffic density estimation through V2V packet probing within time-deadline
  - Focus: Traffic Density Estimation, Vehicular Ad-Hoc Networks
- Extended two previous research works which consider route reconstruction problem using distributed UAVs
  - Focus: Route Reconstruction, Optimization, Heuristics Algorithms, UAVs
- Led a research on dynamic route reconstruction using distributed UAV relays
  - Focus: Route Reconstruction, Dynamic Recovery, UAVs
- Participated in a research on route reconstruction using multi-UAV relays
  - Focus: Wireless Ad-Hoc Networks, Heuristic Algorithms, UAVs

PUBLICATION

CONFERENCE

Christina Suyong Shin, So-Yeon Park, JinYi Yoon, and HyungJune Lee, “Progressive ad-hoc route reconstruction using distributed UAV relays after a large-scale failure,” *IEEE Wireless Communications and Networking Conference (WCNC)*, 2018.

So-Yeon Park, Dahee Jeong, **Christina Suyong Shin**, and HyungJune Lee, “DroneNet+: Adaptive Route Recovery Using Path Stitching of UAVs in Ad-Hoc Networks,” *IEEE Global Communications Conference (GLOBECOM)*, 2017.

JOURNAL

Christina Suyong Shin, JiHo Lee, and HyungJune Lee, "Infrastructure-less Vehicle Traffic Density Estimation via Distributed Packet Probing in V2V Network," *IEEE Transactions on Vehicular Technology (TVT)*, vol. 69, no. 10, Oct 2020.

So-Yeon Park, **Christina Suyong Shin**, Dahee Jeong, and HyungJune Lee, "DroneNetX: Network Reconstruction through Connectivity Probing and Relay Deployment by Multiple UAVs in Ad-Hoc Networks," *IEEE Transactions on Vehicular Technology (TVT)*, vol. 67, no. 11, Nov 2018.

AWARD & SCHOLARSHIP

- Annenberg Fellowship, University of Southern California 2019
  - For outstanding Ph.D. students joining in Fall 2019
- Qualcomm Innovation Awards, Qualcomm x Ewha 2017
  - For proposing a lightweight network hole replacement algorithm through UAV-net and leading to contributions in the fields of Wireless Ad-Hoc Networks
- Silver Prize in Graduation Capstone Design, Ewha Womans University 2016
  - For an outstanding project that presented and implemented *SimMusic* language which plays simple musics on *Lego Mindstorms NXT*
- Dean's List, Ewha Womans University 2013, 2015, 2016
  - For attaining a GPA of over 3.75/4.3

TEACHING EXPERIENCE

Teaching Assistant in Major Courses, Ewha Womans University

- Computer Architecture (20493-02) Fall 2018
- Arduino Programming (11208-01) Spring 2018
- C Programming (38407-05) Fall 2017
- Programming Language Theory (20499-01, 20499-02) Spring 2017

TECHNICAL SKILL

Languages

C, C++, Python, MATLAB, Java, Assembly Languages (ARM, MIPS), LaTeX