

Inho Cho

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Education

Ph.D. Computer Science

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT)

Computer Science and Artificial Intelligence Laboratory (CSAIL)

Advisors: Adam Belay and Mohammad Alizadeh

Cambridge, MA

Sep. 2018 - Present

M.S. Electrical Engineering

KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY (KAIST)

Thesis title: "ExpressPass:Credit-scheduled delay-bounded congestion control for datacenters"

Advisor: Dongsu Han

Daejeon, Korea

Sep. 2015 - Feb. 2018

B.S. Electrical Engineering

KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY (KAIST)

Summa Cum Laude

Daejeon, Korea

Feb. 2008 - Aug. 2015

Research Interest

Operating Systems, Networked Systems, Datacenter Network, Congestion Control, Parallel and Distributed Computing

Research Projects

Microsecond-scale RPCs

Identifying and solving the problems with microsecond-scale RPCs in datacenter [C-3], [S-3].

Sep. 2018 - Present

Credit-based End-to-end Congestion Control for Datacenter Networks

Datacenter congestion control where credit packets schedule the data packet transmission.

It achieves low latency and great fairness with small buffer occupancy [C-2], [P-1], [O-1], [S-2].

Mar. 2016 - Present

Large-scale Combinatorial Optimization using Belief Propagation

A framework to approximate large-scale combinatorial optimization with high accuracy and short running time using belief propagation algorithm [C-1].

Aug. 2014 - Mar. 2016

Publications

CONFERENCE PROCEEDINGS

[C-3] Overload Control for μ s-scale RPCs with Breakwater

Inho Cho, Ahmed Saeed, Joshua Fried, Seo Jin Park, Mohammad Alizadeh, Adam Belay

OSDI 2020, Virtual Conference

[C-2] Credit-scheduled Delay-bounded Congestion Control for Datacenters

Inho Cho, Keon Jang*, Dongsu Han*

*co-corresponding authors

ACM SIGCOMM 2017, Los Angeles, CA, US

[C-1] Practical Message-passing Framework for Large-scale Combinatorial Optimization

Inho Cho*, Soya Park*, Sejun Park, Dongsu Han, Jinwoo Shin

* co-first authors

IEEE International Conference on Big Data 2015, Santa Clara, CA, US

SOFTWARE

[S-3] Breakwater implementation on Shenango

Main contributor
<https://inchocho89.github.com/breakwater>

[S-2] ExpressPass ns-2 simulator

Main contributor
<https://github.com/kaist-ina/ns2-xpass>

[S-1] Belief Propagation-based Combinatorial Optimization Tool

Main contributor
https://github.com/kaist-ina/bp_solver

OTHER NON PEER-REVIEWED PUBLICATIONS

[O-1] Credit-scheduled Delay-bounded Congestion Control for Datacenters

Inho Cho, Keon Jang, Dongsu Han
Google Networking Research Summit 2017 (student poster session), Mountain View, CA, USA

Honors & Awards

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|------|---|-------|
| 2015 | Dean's list , Outstanding Scholastic Achievement in KAIST College of Engineering | KAIST |
| 2015 | Grand Prix , 2015 Winter/Spring KAIST Undergraduate Research Project Workshop | KAIST |
| 2018 | Fellowship , The Irwin Mark Jacobs and Joan Klein Jacobs Presidential Fellowship | MIT |

Teaching Experience

EE817B: Special Topics in Advanced Networking and Cloud Computing

Teaching Assistant KAIST

Fall 2016

6.828: Operating System Engineering

Teaching Assistant MIT

Fall 2020

Work Experience

Google Inc.

Mountain View, CA, USA

SOFTWARE ENGINEERING INTERN

Feb. 2017 - Aug. 2017

Developed a prototype for credit-based congestion control in Google datacenter.
Hosted by Dr. Keon Jang (network infrastructure group)

Smatoos Inc.

Seoul, Korea

WEB & MOBILE APPLICATION DEVELOPER INTERN

Aug. 2011 - Feb. 2012

Developed educational mobile applications for iOS.
Developed websites using WordPress.

Volunteer Experience

Victor Francisco Rosales Ortega (Public School)

Piura, Peru

KOREA INTERNATIONAL COOPERATION AGENCY (KOICA) VOLUNTEER

Jun. 2012 - May. 2014

Taught office automation (OA), programming, and maintenance to students and teachers.