Gyuyeong Kim, Ph.D.

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https://gyuyeongkim.github.io/

RESEARCH INTERESTS	Networked Systems, Data center networks, Cloud computing systems, Programmable hardware, Networking support for Cloud, Big data, and AI systems

EDUCATION

Ph.D. in Computer Science, Korea University	Mar. 2012 - Feb. 2020

Thesis: Buffer Sharing Mechanisms for Data Center Networks
Advisor: Prof. Wonjun Lee

B.S. in Computer Science, Korea University	Mar. 2008 - Feb. 2012

Interdisciplinary major: Brain and Cognitive Sciences

ACADEMIC CAREER

Research Professor, Future Network Center, **Korea University**	Mar. 2020 - Present
Lecturer, School of Cybersecurity, **Korea University**	Sept. 2019 - Feb. 2020

GRANTS

가변형 네트워크 디바이스를 활용한 인네트워크 자원 증강 기술	Mar. 2020 - Feb. 2023

In-Network Resource Augmentation utilizing Reconfigurable Network Devices, Young Research Program (신진연구지원사업), NRF,Grant: 294,000,000 KRW

다중 테넌트 클라우드 데이터 센터상의 공평한 네트워크 성능 고립화 프레임워크	Mar. 2012 - Feb. 2014

Fair Network Performance Isolation Framework in Multi-Tenancy Cloud Data Center Networks, Global Ph.D. Fellowship (글로벌박사펠로우십사업), NRF,Grant: 60,000,000 KRW

TEACHING EXPERIENCE

Instructor, Korea University

Computer Networks (IMS301)	2020S
Computer Networks (IMS301)	2019F

Teaching Assistant, Korea University

Computer Networks (IMS301)	2019S, 2018S, 2017F
Computer Networks (IMS2012)	2018(Summer)
Computer Networks (CYDF316)	2016F
Computer Networks (CYDF321)	2016S
Computer Networks (COSE342)	2015F
Communication Networks (CYDF305)	2014S
Wireless Mobile Communications (CNCE407)	2013S, 2012S

PROFESSIONAL ACTIVITIES

Reviewer
IEEE International Conference on Computer Communications (INFOCOM), 2020
IEEE International Conference on Distributed Computing Systems (ICDCS), 2019
IEEE Transactions on Cloud Computing, 2019
IEEE Networking Letters, 2019

INVITED TALKS

Tutorial: P4 SFC

SDN/NFV Forum P4 WG 2019 1st Meetup, Seoul, South Korea	Apr. 19, 2019

Service Function Chaining in P4-enabled Programmable Switches

Controller-independent Loss-aware Low Latency State Migration in Network Functions Virtualization
ONOS-P4 Brigade Work Days 2017, Seoul, South Korea   Sept. 19, 2017

CONFERENCE PUBLICATIONS

1. **Gyuyeong Kim** and Wonjun Lee, "Protocol-Independent Service Queue Isolation for Multi-Queue Data Centers," to appear in *Proc. of the 40th IEEE International Conference on Distributed Computing Systems* (**ICDCS 2020**), Singapore, December 2020. (Acceptance rate: 17.98%=105/508)

2. **Gyuyeong Kim** and Wonjun Lee, "Service Function Chaining on Programmable Data Plane," to appear in *Proc. of the 5th International Conference On Consumer Electronics Asia*, Seoul, South Korea, November 2020.

3. **Gyuyeong Kim** and Wonjun Lee, "Stable Matching with Ties for Cloud-assisted Smart TV Services," in *Proc. of the 14th IEEE International Conference on Consumer Electronics*, Las Vegas, NV, January 2014.

4. **Gyuyeong Kim** and Wonjun Lee, "Cannot Take My Allocation: Enforcing Fairness by Considering Demand and Payment in Clouds," in *Proc. of the 4th International Conference on Network of the Future*, Pohang, South Korea, October 2013.

5. **Gyuyeong Kim**, Hoorin Park, Jieun Yu, and Wonjun Lee, "Virtual Machines Placement for Network Isolation in Clouds," in *Proc. of 2012 Research in Applied Computation Symposium*, San Antonio, TX, October 2012.

JOURNAL PUBLICATIONS

1. **Gyuyeong Kim** and Wonjun Lee, "Enabling Service Queue Isolation in Multi-Tenant Data Centers," *IEEE Communications Letters* (**CL**), Vol. 23, No. 11, pp. 1949-1952, November 2019.

2. **Gyuyeong Kim** and Wonjun Lee, "Absorbing Microbursts without Headroom for Data Center Networks," *IEEE Communications Letters* (**CL**), Vol. 23, No. 5, pp. 806-809, May 2019.

3. **Gyuyeong Kim** and Wonjun Lee, "Tardy Flow Scheduling in Data Center Networks," *IEICE Transactions on Information and Systems*, Vol. E99-D, No. 9, pp. 2400-2403, September 2016.

RESEARCH EXPERIENCE

Intelligent and Autonomous Networking
- aSTEAM: App-Specialized Transport for Evolvability, Autonomicity, and Measurability, NRF, PI:*Prof. Wonjun Lee*   Oct. 2018 - Dec. 2020

SDN/NFV and Programmable Networking
- Development of Core Technologies for Programmable Switch in Multi-Service Networks, IITP, PI:*Prof. Sangheon Pack*   Jan. 2017 - Dec. 2020

Cloud Computing and Data Center Networking
- Cloud Bridges-Piers: Optimization Technologies towards Higher Performance of Wireless Networking Cloud, NRF, PI:*Prof. Wonjun Lee*   Jun. 2013 - May 2016

PATENTS

1. Wonjun Lee and **Gyuyeong Kim**, "Method for Data Processing," *Korean Patent* 10-2064679, January 3, 2020.

2. Wonjun Lee and **Gyuyeong Kim**, "Method and Device for Scheduling Flow of Packet for Reducing Delay Time Due To Retransmit of Packet," *Korean Patent* 10-1841143, March 16, 2018.

AWARDS AND HONORS

IEEE Seoul Section International Student Paper Contest Bronze Paper Award   2014
- Fault Tolerant Topology Reconfiguration in Optical Wireless Data Center Networks
Global Ph.D. Fellowship (GPF), NRF, South Korea   2012 - 2014
ACM-ICPC Seoul Regional Contest 10th Place   2009
National Collegiate Programming Contest Silver Prize, South Korea   2009
Oracle JavaFX Software Contest 3rd Prize   2009

ACM-ICPC Seoul Regional Contest Honorable Mentions   2008

WORK   **Korea University Lecture Evaluation (KLUE)** http://klue.kr
EXPERIENCE   - An online service providing course reviews and ratings based on student feedback at Korea University.
                    Roughly 460K+ reviews by 45K+ members are available today
                    President   Jan. 2011 - Feb. 2015
                    - Led our team and managed the service. Maintained the service infrastructure.
                    Co-Founder and Junior developer   Mar. 2010 - Jun. 2010
                    - Designed and developed a part of the service.

REFERENCES   Available upon request.