

# Joongi Kim

## Curriculum Vitae

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### Work Experiences

- 2016.07–  
current **CTO & Co-founder, Lablup Inc.**, Seoul, South Korea.  
Building cloud-scale infrastructure and backends for on-demand code execution service for research and education
- 2012.11–  
2013.02 **Research Intern, Microsoft Research**, Cambridge, UK.  
Analyzed the operation logs of a global-scale multi-tenant cloud service.
- 2009.06–  
2010.01 **Software Engineering Intern, NexR**, Daejeon, South Korea.  
Developed VM instance and Hadoop cluster management services.

### Awards

- 2017 **4th Open Frontier OSS Part-timer** by National IT Industry Promotion Agency (NIPA) of Korea
- 2015 **Best Student Paper** in ACM EuroSys Conference
- 2012–2013 **Global Ph.D Fellowship** by National Research Foundation (NRF) of Korea
- 2005–2009 **Presidential Science Scholarship** by Korea Student Aid Foundation (KOSAF)

### Education

- 2012–2016 **Ph.D in Computer Science, KAIST**, Daejeon, South Korea.
- 2010–2012 **Master in Computer Science, KAIST**, Daejeon, South Korea.
- 2005–2010 **Bachelor in Computer Science, KAIST**, Daejeon, South Korea.
- 2003–2004 **Gyeonggi Science High School**, Suwon, South Korea.

### Ph.D Thesis

- Title** **A High-Performance Packet Processing Framework for Heterogeneous Processors**
- Supervisor** Professor Sue Moon
- Summary** I designed and implemented a world-first 80 Gbps Linux-based packet processing framework using CUDA GPUs and Intel Xeon Phi co-processors with adaptive load balancing.

### Publication

- 2016 **Exploring Low-latency Interconnect for Scaling Out Software Routers.**  
Sangwook Ma, Joongi Kim, Sue Moon  
2nd IEEE International Workshop on High-Performance Interconnection Networks in the Exascale and Big-Data Era (HiPINEB), Barcelona, Spain
- 2015 **NBA (Network Balancing Act): A High-performance Packet Processing Framework for Heterogeneous Processors** – BEST STUDENT PAPER.  
Joongi Kim, Keon Jang, Keunhong Lee, Sangwook Ma, Junhyun Shim, Sue Moon  
ACM EuroSys, Bordeaux, France

- 2015 **KENSv2: An Educational Networking Framework for Full Layer Implementation and Testing.**  
Keunhong Lee, *Joongi Kim*, Sue Moon  
ACM SIGCSE, Kansas City, United States
- 2012 **The Power of Batching in the Click Modular Router.**  
*Joongi Kim*, Seonggu Huh, Sangjin Han, Keon Jang, KyoungSoo Park, Sue Moon  
3rd ACM Asia-Pacific Systems Workshop (APSys), Seoul, South Korea
- 2011 **Modularity Meets Batching: Towards an Experimental Platform for High-speed Software Routers** (poster).  
*Joongi Kim*, Seonggu Huh, Sangjin Han, Keon Jang, KyoungSoo Park, Sue Moon  
23rd ACM Symposium on Operating Systems Principles (SOSP), Cascais, Portugal
- 2010 **Dynamic Forwarding Table Management for High-speed GPU-based Software Routers** (poster).  
*Joongi Kim*, Keon Jang, Sangjin Han, KyoungSoo Park, Sue Moon  
9th USENIX Symposium on Operating Systems Design and Implementation (OSDI), Vancouver, Canada
- 2004 **String Matching Algorithm for Real-time Intrusion Detection and Response.**  
Jooyeop Kim, *Joongi Kim*, Narae Han, Seonghoon Kang, Sanghoo Lee, Hongjin Yeh  
Proceedings of the 31th KISS Spring Conference, Daejeon, South Korea

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## Highlighted Talks

- 2016 **High-Performance Networking with Python.**  
PyCon APAC -- <http://bit.ly/joongi-talk-pyconapac2016>
- 2016 **Exploring Low-latency Interconnect for Scaling-Out Software Routers.**  
HiPINEB -- <http://bit.ly/joongi-talk-hipineb2016>
- 2015 **Designing a Python-based Data Analysis / Online Coding Platform for Researchers and Educators.**  
PyCon KR -- <http://bit.ly/joongi-talk-pyconkr2015>
- 2015 **Network Balancing Act.**  
ACM EuroSys -- <http://bit.ly/joongi-talk-eurosys2015>

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## OSS Projects

- 2016–current **Sorna, Lablup Inc.**  
Architecture design and implementation  
<http://sorna.io>
- 2015–current **NBA, KAIST.**  
Architecture design and implementation including GPU acceleration  
<https://github.com/anlab-kaist/NBA>
- 2006–current **Textcube, TNF/Needlworks.**  
Core framework and Google Maps plugin  
<http://www.textcube.org>
- 2008–2016 **Hangul iPuTTY, Independent.**  
Korean IME support and font separation for Unicode CJK characters  
<https://bitbucket.org/daybreaker/iputty>
- 2009 **OTL (Online Timeplanner for Lectures), KAIST SPARCS.**  
Backend and frontend (time-table UI), integration with KAIST school database  
<https://otl.kaist.ac.kr>
- 2009 **CCIU: Open Course Labs), NexR.**  
<https://github.com/achimnol/cciu-open-course-labs>