# Jong Yul Kim

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## EDUCATION

**Columbia University**  New York, USA
  PhD in Computer Science                                Dec 2013
  MS in Computer Science     GPA 3.92            May 2006

**Seoul National University**  Seoul, South Korea
  BS in Computer Engineering   GPA 3.08           Feb 2005

## RESEARCH AND DEVELOPMENT EXPERIENCE

**Columbia University** Graduate Research Assistant         Jun 2005 – Dec 2013
- Identified and addressed latency problem in cloud computing platforms for real-time services
- Co-lead development of Next Generation 9-1-1 prototype for USDOT proof-of-concept tests

**AT&T Labs Research** Student Intern                May 2010 & May 2011
- Evaluated commercial/open-source SIP server clusters for reliability, availability, and scalability

**Great Human Software Co. Ltd** Software Engineer       Sep 2000 – Mar 2003
- Developed and deployed web collaboration server on 5 Korean banks and insurance companies

## SELECTED PROJECTS

**Cloud components to support latency-sensitive applications**     Oct 2012 – Aug 2013

Devised a distributed load sharing policy to mask server latency on cloud platforms by reducing server load when latency is high. Result shows low $95^{th}$ percentile latency with small monitoring overhead (2~3% cpu util for 500 cps)
  *Skill sets*: researching a risky topic, C, libpcap, network and thread programming

**Auto-scaling VoIP server cluster on cloud platforms**          Sep 2010 – May 2011

Designed and deployed a scalable VoIP server cluster on Amazon EC2. Implemented a manager program to start/stop, auto-scale, and auto-(re)configure the cluster. Supervised masters student to build GUI on the manager to monitor load.
  *Skill sets*: scalable cluster design, C, Java, EC2 API, Cassandra, SIP Express Router

**Next Generation 9-1-1 Proof-of-Concept System**           Jun 2005 – Aug 2008

Co-lead overall development and deployment of emergency calling system in a time-constrained environment with a team of 5 graduate students and 1 network administrator in NY and TX. Implemented advanced call features.
  *Skill sets*: team communication, task prioritization, C++, Tcl/Tk, LAMP, cvs, SIP protocol

## TEACHING EXPERIENCE

**Columbia University Preceptor**
- Networking Laboratory: taught hands-on lab course with Cisco routers and Linux PCs   Spring 2009, 2010
- Introduction to Computer Science in C: taught an introductory course for engineering majors   Fall 2009

## AWARDS AND GRANTS

- 1<sup>st</sup> Place, Juniper/Comcast Software-Defined Network workshop and competition, NJ   Nov 2013
- Amazon AWS Research Grant, USA   Mar 2011 – Feb 2015
- IR52 Jang Young Shil Award, South Korea   Jul 2001
  Gold medal awarded by Ministry of Science and Technology for NAT-traversing H.323 product

## SKILLS

C, Linux, network programming, Amazon EC2, server cluster architecture, Cisco routers, VoIP, Java, Python

## PROFESSIONAL SERVICE

- Tech Report Czar, Computer Science Department, Columbia University   May 2009 – May 2011
- Graduate Adviser, Columbia ACM Student Chapter   Jan 2007 – May 2009