JaeSeung SONG
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Education

Oct 2008 ~ Mar 2013	**Ph.D. in Computing at Imperial College London, London, United Kingdom** Research – Distributed Software Engineering, Mobile Communications Supervisors – Prof. Kin K. Leung and Dr. Peter Pietzuch
Mar 2000 ~ Aug 2002	**M.S. in Computer Science and Engineering at SOGANG UNIVERSITY, Seoul, Korea, Completed with Excellence** Research – Software Engineering, Product Line Software Development Advisor – Prof. Sooyong Park
Aug 1998 ~ Feb 2000	**B.S. in Computer Science and Engineering at SOGANG UNIVERSITY, Seoul, Korea** Ranked 2 out of 78 students who graduated from the Computer Science and Engineering Department at SOGANG University
Mar 1992 ~ Feb 1996	**B.S. in Environmental Science at YONSEI UNIVERSITY, Wonju, Korea**

Professional Experience

Sep 2013 ~ Now	**Assistant professor in the Department of Computer and Information Security at Sejong University, Seoul, Korea** • Standardization activities: oneM2M, IEEE ComSoc, TTA SPG 11 IoT Convergence Service Group (Vice Chair) • Researcher topics: IoT/M2M security and testing, Semantic M2M system, Smart IoT Services, Software security, Privacy and Reliability • Activities: ・ oneM2M TST Ad-Hoc Group Convenor ・ IEEE ComSoc IoT Architectures Research Group Chair ・ TPC members of several conferences (e.g., ICC 2014, ICCVE 2014, WF-IoT) ・ Journal reviewer (e.g., IEEE Wireless Communications Magazine, IEEE Sensors Journal)
Aug 2012 ~ Dec 2013	**Senior researcher in NEC Laboratories Europe, Heidelberg, Germany** • Standardization in ETSI TC M2M and oneM2M • Researcher in EU / Business Unit projects on the following topics: ・ Machine to machine (M2M) communications ・ Smart building and smart city ・ Semantics for Internet of Things ・ M2M service orchestration
Sep 2008 ~ Mar 2013	**Postgraduate student in the Computing Department at Imperial College London, London, United Kingdom** • Thesis title: SymbexNet: Checking Network Protocol Implementations using Symbolic Execution • Design and verification framework for future autonomous networks ・ Supported by Mobile Virtual Centre of Excellence (M-VCE) Core 5 Program, October 2008 to May 2010. ・ Applied theoretical verification techniques (model checking, theorem proving) to future autonomous networks • Collaborated with industry members (Vodafone, BT, Alcatel-Lucent, etc)
Jun 2010 ~ Dec 2011	**Technology Consultant at SAIT Europe, Samsung Electronics, Staines, United Kingdom** • Consulting areas: Communication Networks, Multimedia and Computing
Nov 2004 ~ Sep 2008	**3GPP Standardization SA and SA WG2 Delegate of LG Electronics, Anyang, Korea** • Actively contributed to 3GPP SAE/LTE SA and SA2 (Releases 6 to 8) • Rapporteur on IMS Service Continuity (TS 23.237) and Multimedia Session Continuity Work Item (TR 23.893) supported by 16 companies such as Orange, Telecom Italia, Ericsson, Nokia, Motorola, Samsung etc • Chaired IP Multimedia Subsystem (IMS) sub-working group ad-hoc meetings. • Collaborated with IMS software development groups and OMA standardization groups. (PoC, BCAST, LoC)

Aug 2002 ~ Nov 2004	**Research Engineer at CDMA Labs in LG Electronics, Seoul, Korea.**

- Designed IrDA module into MSM chip and implemented its firmware.
- Designed and Implemented User Interface applications on Phone book and IrDA data exchange.
- Designed and Implemented of mobile bank applications on top of Java and WiPi.
- Developed the interface between Banking SIM Card and Terminal.

Jun 2000 ~ Aug 2002	**Research Assistant in the Software Engineering Research Center attached to SOGANG University**

- Adjusted requirements engineering process to the Korea military C4I system.
- Designed formal methods for product line based software development.

Internships

Jun 2001 ~ Dec 2002	**Siemens Corporate Technology, Information and Communications Mobile, Munich, Germany.**

- Implemented migration tools for Intelligent Network using C, Java and CORBA.

Jul 1999 ~ Jul 2000	**ACD Web, San Jose, U.S.A.**

- Designed and developed Internet shopping mall using ASP and PHP.
- Implemented Java based internet applications.

Teaching

Mar 2003 ~ Dec 2004	**Lecturer of Structure Software Analysis & Design at Software Academy in LG Electronics, Seoul, Korea**

- Lecturer developed embedded software developing process to all the member of CDMA Labs and R&D center branches spread into the world.

Jun 2000 ~ May 2001	**Teaching Assistant for the software engineering course**

Awards, Scholarships & Prizes

2010 ~ 2011	**Overseas Research Students Awards Scheme (ORSAS) award, UK Secretary of State for Education and Science**
2008, 2007, 2006, 2005	**"LG Electronics Incentive" for outstanding standardization activities awarded by CTO**
2003 ~ 2004	**Mobile Development Incentive (LP-3400, LP-3000, LP-1950)**
Aug 2000 ~ Dec 2000	**"A-Level Scholarship" for outstanding students at the Sogang University, Seoul, Korea for the Second semester 2000**
Mar 1999 ~ Aug 1999	**"A-Level Scholarship" for outstanding students at the Sogang University, Seoul, Korea for the First semester 1999**

Special Skills and Activities

Environments	Windows 9x/NT/XP/Vista, Unix, WebServer, MS-Office, ClearCase, UML, Linux, Real-Time OS (RTOS)
Programming	C, Python, Java, C++, CORBA, ASP, PHP, MFC .
Activities	
Oct 2001 ~ Dec 2001	• Analyze and categorize Korea IT industry supported by government.
Mar 1996 ~ Jun 1998	• Military service as a ROTC Officer.

Languages

Korean (Mother tongue), English (fluent), German (Intermediate)

Courses

@ Sogang Univ.:   Discrete Structures, Personal Computer Laboratory, Introduction to Digital Circuits, C Programming, JAVA Programming, Data Structures, Computer Organization and Logic I, Computer Organization and Logic II, Digital Logic Lab., Assembly Programming, System Programming, Software Engineering, Windows Programming, Introduction to Data Communication, Operating System, File Processing, Internet Programming and Applications, Introduction to Artificial Intelligence.

@ Imperial College London   Temporal and Modal Logic, Automated Reasoning, Advanced Operations Research

Published Papers and Standard Documents (Selected)

- Joerg Swetina, Guang Lu, François Ennesser, Phil Jacobs, **JaeSeung Song**, "Towards Standardized Common M2M Service Layer Platform: Introduction to oneM2M", IEEE Wireless Communications Magazine, June, 2014.
- **JaeSeung Song**, Cristian Cadar and Peter Pietzuch, "SymbexNet: Testing Network Protocol Implementations with Symbolic Execution and Rule-Based Specifications", IEEE Transactions on Software Engineering (TSE), 04/2014, (2014)
- **JaeSeung Song**, Andreas Kunz, Mischa Schmidt, Piotr Szcytowski, "Connecting and Managing M2M Devices in the Future Internet", Mobile Networks and Applications, Springer, 2013
- Andreas Kunz, Surendran Palanimuthu, **JaeSeung Song**, Hans-Joerg Kolbe, "MC-SDN: Introducing OpenFlow in the 3GPP Evolved Packet Core", eLetter of IEEE MMTC, May, 2013
- **JaeSeung Song**, Andreas Kunz, "Towards Standardized Prevention of Unsolicited Communications and Phishing Attacks", Journal of ICT Standardization, River Publishers, May, 2013
- Apostolos Papageorgiou, Mischa Schmidt, **JaeSeung Song**, Nobuharu Kami, "Smart M2M Data Filtering using Domain-specific Thresholds in Domain-agnostic Platforms", IEEE International Conference on BigData, pp. 286–293, July, 2013,
- Hyoungshick Kim, **JaeSeung Song**, "Social Network Analysis of Patent Infringement Lawsuits", Technological Forecasting and Social Change, November 2012
- **JaeSeung Song**, Tiejun Ma, Cristian Cardar, Peter Pietzuch, "Rule-based Verification of Network Protocol Implementations using Symbolic Execution", Proc. 20th International Conference on Computer Communications and Networks (ICCCN), July 2011 (**acceptance Rate: 29%**)
- **JaeSeung Song**, Tiejun Ma, Peter Pietzuch, "Towards Automated Verification of Autonomous Networks: A Case Study in Self-Configuration", 6th IEEE PerCom Workshop on Pervasive Wireless Networking (PWN 2010), April, 2010
- **JaeSeung Song**, Tiejun Ma, Stylianos Georgoulas, Peter Pietzuch, Kin Leung, "Literature Survey: Towards Future Flexible Network Verification", TR-FN-009, Technical Report, Mobile VCE, Sep, 2009
- Kiyoung Kim, HyunSook Kim, **JaeSeung Song**, JongGon Kim, "3GPP System Architecture Evolution Standardization", TTA Journal, No 115, 2008
- **JaeSeung Song**, "3GPP Combining CS and IMS Standardization", TTA Journal, 2007
- **JaeSeung Song** (the rapporteur), 3GPP TS 23.237: "IP Multimedia Subsystem (IMS) Service Continuity", 2008
- **JaeSeung Song** (the rapporteur), 3GPP TR 23.893: "Feasibility Study on Multimedia Session Continuity", 2007
- **JaeSeung Song**, Minsung Kim, Sooyong Park, "Formal Feature Specification Method for Product-Line Development", Journal of Korea Information Science Society, Volume 30, Issue 11, December, 2003, pp. 1001-1014
- **Jaeseung Song**, Minsung Kim, Sooyong Park, Keunghae Lee, "Feature Specification Method in Product-Line Development", International Symposium on Future Software Technology 2002 (ISFST2002), 2002. 10.
- Sooyong Park, **Jaeseung Song**, SoonHwang Choi, "Develop and apply Integrated Requirement Management System", System Engineering Symposium, pp. 44-49, 2002. 6.

Ten Key Patents (Among 35 Patents)

- 2007.01, Enabling Call Continuity Terminal Mechanism
- 2007.02, Execute Call procedure considering User Preference and Operator Policies, Terminal and Call Continuity Application Server
- 2007.02, Network Controlled Terminal Configuration Management
- 2007.03, Method and Tool for Service Domain Selection
- 2007.04, Method to exchange Wireless system radio environment information and Mobile terminal
- 2007.06, Management of Bearer Establishment Modification
- 2007.07, Method for Network Controlled session continuity
- 2007.08, Mobility selection mechanism in future network
- 2008.02, Method for partial session transfer using handover mechanism
- 2008.02, Method for session transfer and session continuity