‍‍Sang-Joon Lee

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Education

Master of SCIENCE, Computer science | Boston University | SEPT 2015 – JAN 2017

* Related coursework: Artificial Intelligence, Image and Video Computing, Distributed Systems, Databases, Algorithms

Bachelor of Applied Science, Computer Engineering | University of Toronto | SEPT 2000 – MAY 2005

* Related coursework: Software Engineering, Operating Systems, Computer Architecture, Digital Signal Processing

Master of SCIENCE, Computer ENGINEERING | Ryerson University | SEPT 2007

* Related coursework: Wireless Communication, Human Computer Interface, Optimization

Work Experience

Senior SOFTWARE ENGIneER | Corindus vascular Robotics | Waltham, MA |APR 2017 – present

* Led research and development of vascular robotics software development – automated movements.
* Languages: C#, C, C++, MATLAB
* Tools: Visual Studio, Enterprise Architect, Mercurial, LabVIEW, CAN

SOFTWARE ENGIneER (INTERN) | Philips Research North America | CAMBRIDGE, MA |Jun 2016 – DEC 2016

* Led research and development of a prototype augmented reality software for integration with Philips Lighting technology.
* Led investigation of integrating Facebook PrestoDB with MySQL, Hadoop Hive, MongoDB, Postgres and Cassandra.
* Languages: C++, Objective-C, C#
* Tools: iOS, Xcode, OpenCV, Unity3D, Vuforia SDK, AWS, PrestoDB, Estimote Bluetooth(BLE)

Senior Applications Engineer | Mathworks | NATICK, MA | Feb 2012 – Jan 2015

* Technical focal point for major customers as an expert in Model-Based Design development using MATLAB & Simulink products, such as control system development, physical modelling, and code-generation for embedded systems.
* Responsible for debugging, investigating and resolving technical issues from major customers in Aerospace, Automotive, Medical, Energy, and Controls industries – who are using MathWorks products to develop advanced control & systems.
* Technical Projects: Embedded Technology Robotic Competition (ET Robocon) – led a team of 15 engineers to design and develop two-wheel balancing robot for autonomous navigation. Led for 3 years.
* Languages: C/C++, Java, MATLAB
* Tools: Visual Studio, MATLAB, Simulink, Perforce, Git

Senior Software & SystemS engineer | Prolucid | TORONTO, CANADA | Nov 2010 – Feb 2012

* Member of software consulting startup with less than 10 engineers. Responsible for the complete software & hardware development life cycle process from requirement gathering & design, implementation, testing, deployment, project management and customer support.
* Led development of customized software & hardware for clients including embedded control system design, FPGA, real-time signal processing for industrial real-time monitoring software and product prototyping for product commercialization.
* Languages: C/C++, SQL
* Tools: LabVIEW, NI DAQ, MySQL, Perforce

System Design Engineer II | Honeywell Aerospace | TORONTO, CANADA | May 2005 – Nov 2010

* Member of advanced technology research and development team at Honeywell Aerospace Power Systems Group. Worked in parallel with principal systems engineers and cross-functional engineering groups to design, implement, and execute system design and verification of avionic systems, and built prototypes for future product research & development.
* Led a team of 5 engineers modelling software and hardware system using MATLAB & Simulink and code generation in C for embedded systems.
* Technical Projects: System modelling for Electrical Power Distribution System for Commercial & Military Aircraft
* Languages: C/C++, MATLAB
* Tools: MATLAB, Simulink, SVN, PVCS, DOORS

System Design Engineer (Intern) | Honeywell Aerospace | TORONTO, CANADA | May 2003 – Aug 2004

* Responsible for developing auto-code generation tool for rapid prototyping product development, resulting in $500k per year in cost savings throughout various projects.
* Languages: Ada, C, MATLAB
* Tools: MATLAB, Simulink, PVCS

Skills

* Languages: C/C++, C#, Objective-C, Python, Java, JavaScript, MATLAB, Go, HTML5, CSS, SQL, Ada
* Frameworks: Bootstrap, jQuery, Node.js, OpenCV, Tensorflow, StanfordNLP
* Database: MySQL, PostgreSQL, MongoDB, AWS, PrestoDB
* Tools: MATLAB, Simulink, LabVIEW, Visual Studio, Xcode, Unity3D, iOS, Vuforia SDK, CMake, GNU Make
* CM: Perforce, SVN, Git, PVCS, Mercurial TortoiseHg
* Requirements: DOORS, DO-178C, IEC-62304
* OS: Windows, MacOS, Linux (Ubuntu, CentOS)
* RTOS: FreeRTOS, QNX, VxWorks, Linux RT
* Network: Ethernet, TCP/IP, CAN, SPI, I2C, AFDX
* Graphics: Qt, OpenGL

Publications

* David Lazarovich and Sang-Joon Lee, “Approach for an Integrated Multi-Domain Aircraft Energy Model”, SAE International Journal of Aerospace, April 2009 vol. 1 no. 1 1053-1058.
* Ileana Rusan, Sang-Joon Lee and Anantha Koduru, “Early Validation of Power Distribution Channel Controller LRM Requirement using Rapid Prototyping Simulations”, SAE Power Systems Conference, Seattle, Washington, Nov 11-13, 2008.
* Sang-Joon Lee and Kaamran Raahemifar, “FPGA Placement and Optimization Methodology: A Survey”, IEEE CCECE’08: Symposium on Circuits, Devices and Systems, Niagara Falls Canada, May 4-7, 2008.

Patents

* Inventors: David Lazarovich, Ileana Rusan, Joe Nutaro, Sang-Joon Lee, Ted Gayowsky, Title: “Method for Active Power Management and Allocation of Functionality”, United States Patent 20100280682, Issued November 4, 2010.

Awards

* Honeywell Patent Award (March 2009)
* Honeywell Trade Secret Award (March 2009, March 2007, March 2006)

Certifications

* Design for Six Sigma Green Belt (Honeywell International Inc. – Starting May 2008)
* P.Eng (Passed Professional Engineer Exam) – Professional Engineer Ontario
* NI Certified LabVIEW Developer (CLD)