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PIL HO KIM

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EDUCATION

- **PhD.** in Electrical and Computer Engineering, Georgia Institute of Technology, August 2009.
- **M.S.** in Electronic and Electrical Engineering, POSTECH, South Korea, February 1996.
- **B.S.** in Electronic Engineering, Pusan National University, South Korea, February 1994.

EMPLOYMENT

Senior/Marie Curie Research Fellow **University of Trento** **May 2010 - present**

- Founded eLifeLog.org community. 28 researchers around the world have contributed their lifelogs, collaborated for lifelog analysis, and shared the research to build an open platform for lifelogging.
- Designed a mobile phone-based personal lifelogging App (Android) that collects and sends data to the server (PHP for server and client REST services) for the automated daily activity summarization (C++ for computer vision and Java for sensor fusion) using complex event processing (Esper).
- Published an open source (Javascript+HTML5 for UI and Sencha Touch for mobile platform) for event-based lifelog visualization with a CEP language-based human behavior pattern composer.

Research Staff Member **VP Technologies Inc.** **August 2009 – April 2010**

- Proposed an OpenCL foreign object specification (OpenCL-FO) for multimedia abstraction and management.

Supplemental Researcher **IBM T.J. Watson** **May 2004 – August 2004**

Pervasive Computing Solutions

- Developed a personal information chronicling solution (C++, MFC and Lotus Notes) for IBM Global Network. It continuously logs personal and group activities while seamlessly linking low-level data events for high-level browsing, annotating, editing and sharing information.

Visiting Researcher **HP Labs** **July 2003**

Imaging Systems Laboratory

- Contributed to the design of video and audio sensor array system with SMIL-based video conferencing software for HP & Georgia Tech joint Experiential Telepresence project.

Research Assistant **Georgia Institute of Technology** **August 2002 – July 2009**

Electrical and Computer Engineering

- Implemented a relational directed acyclic graph (RDAG) server (SQL+PHP) atop RDBMS extending SQL (named EML) that supports heterogeneous data streams, unstructured queries with semantic expansion, unified object namespaces, temporal queries, rank ordering and fundamental graph operations.
- Developed a street view traffic sign recognition method for US DOT asset management using a functional neural network and polygon-based shape decision model that effectively saved 86 percent of the manual image review process to identify and check the status of traffic signs on the road.

Researcher Staff Member **RIST, South Korea** **December 1994 – July 2002**

Facility & Automation Research Division

- Performed and managed 22 industrial automation projects as a principle/co-PI researcher.
- Engineering software development (selected): (1) Roughing mill plant design software with optimized production scheduling (1997-2000): 0.25 million lines C++/MFC, (2) Free forging mill production scheduler (2001-2002): 0.15 million lines C++/MFC.

Research Assistant **POSTECH, South Korea** **March 1994 – February 1996**

Electronic and Electrical Engineering

- Developed a disparity reconstruction method from binocular images using a hierarchical mean field algorithm that is robust in locally occluded zones.
- Real-time moving slab (44 miles/hour) warp measuring computer vision system using Kalman filter-based object tracking (C and FPGA DSP) that worked at POSCO #2 thick plate plant over 6 years.

AWARDS

- **Marie Curie Fellowship:** EC FP7 Marie Curie Action co-funded with the Provincia Autonoma di Trento, Italy.
- **Ambassadorial scholarship:** Rotary International
- **National study abroad program award:** Ministry of Information and Communication, South Korea.
- **Advanced technology award:** POSCO, South Korea.

Languages and Technologies

- C++; C; PHP; SQL; JavaScript; Java; Bash Shell, OpenCV, Matlab, LabView.

Publications

- Ph.D. Thesis: "E-model: Event-based graph data model theory and implementation, " Completion Date: August 2009, Advisors: Dr. Ramesh Jain, UC Irvine and Dr. Vijay Madiseti, Georgia Institute of Technology.
- M.S. Thesis: "Hierarchical mean field algorithms for binocular stereo vision," Completion Date: Feb. 1996 Advisor: Dr. Hong Jeong, POSTECH, South Korea.
- Pil Ho Kim, "The eLog UI," in <https://github.com/eLifeLogTeam/elog>, 2014.
- Pil Ho Kim and Fausto Giunchiglia, "The Open Platform for Personal Lifelogging: The eLifeLog Architecture," in Proceedings of the ACM CHI Works-in-Progress, pp. 1677-1682, 2013.
- Pil Ho Kim and Fausto Giunchiglia, "Life Logging Practice for Human Behavior Modeling," in Proceedings of the IEEE International Conference on Systems, Man, and Cybernetics, pp. 2873-2878, 2012.
- Pil Ho Kim and Fausto Giunchiglia, "Lifelog data model and management: Study on research challenges," International J. of Computer Information Systems and Industrial Management, vol. 5, pp. 115-125, 2012.
- Pil Ho Kim and Fausto Giunchiglia, "Lifelog Event Management: Crowd Research Case Study," in Proceedings of the EiMM 2011: 3rd ACM Workshop on Events in Multimedia, pp. 43 - 48, 2011.
- Pil Ho Kim, "Web-based research collaboration service: Crowd lifelog research case study," in Proceedings of the 7th International Conference on Next Generation Web Service Practices, IEEE, pp. 188-193, 2011.
- James Tsai, Pil Ho Kim and Zhaohua Wang, "Generalized traffic sign detection model for developing a sign inventory," Journal of Computing in Civil Engineering, vol. 23, no. 5, pp. 266-276, 2009.
- Pil Ho Kim, and Ramesh Jain, "Category-based functional information modeling for eChronicles," in Proc. of the IEEE Workshop on Electronic Chronicles, pp. 17-24, 2006.
- Pil Ho Kim, Ullas Gargi, and Ramesh Jain, "Event-based multimedia chronicling systems," in Proc. of the 2nd ACM Workshop on Capture, Archival and Retrieval of Personal Experiences, Hilton, Singapore, pp. 1-12, 2005.
- Pil Ho Kim and Ramesh Jain, "Heterogeneous media events processing systems," in Proc. of the ACM SIGMM workshop on Effective Telepresence, New York, NY, USA, pp. 52-54, 2004.
- Pil Ho Kim, Mark Podlaseck, and Gopal Pingali, "Personal chronicling tools for enhancing information archival and collaboration in enterprises," in Proc. of the 1st ACM Workshop on Continuous Archival and Retrieval of Personal Experiences, pp. 55-65, 2004.
- Amarnath Gupta, Bin Liu, Pil Ho Kim, and Ramesh Jain, "Using stream semantics for continuous queries in media stream processors," in Proc. of the IEEE 20th International Conference on Data Engineering, 2004.
- Rahul Singh, Zhao Li, Pil Ho Kim, Derik Pack, and Ramesh Jain, "Event-based modeling and processing of digital media," in Proc. of the 1st International Workshop on Computer Vision meets Databases, pp. 19-26, 2004.
- Ramesh Jain and Pil Ho Kim, "Experiential meeting system," in Proc. of the ACM SIGMM Workshop on Experiential Telepresence, Berkeley, California, USA, pp. 1-12, 2003.
- Pil Ho Kim, Myung Sik Chun, Joon Jeong Yi, and Young Hoon Moon, "Development of pass schedule design software in forging process," in Proc. of the International Conference on Advanced Forming and Die manufacturing Technology, Pusan, Korea, pp., 2002.
- Pil Ho Kim, Myung Sik Chun, Joon Jeong Yi, and Young Hoon Moon, "Pass schedule algorithms for hot open die forging," Journal of Materials Processing Technology, vol. 130-131, pp. 516-523, 2002.
- Wanki Hong, Pil Ho Kim, Young Hoon Moon, and Jounjeong Yi, "Hot strip width control method by using looper tension measuring system in finishing mill," Journal of Materials Processing Technology, vol. 111, pp. 74-78, 2001.
- Pil Ho Kim, Myoungsik Chun, and Joon Jeong Yi, "Rough mill process schedule and process de- signing algorithms and implementation," in Proc. of the 4th Rolling Symposium, Korean Society for Technology of Plasticity, Pohang, Korea, pp. 789-797, 2001.
- Pil Ho Kim, Myung Sik Chun, and Young Hoon Moon, "Development of process design software in roughing mill," RIST Journal of R&D, vol. 14, pp. 342-347, 2000.
- Wan Kee Hong, Pil Ho Kim, Joon Jeong Yi, and Young Hoon Moon, "Development of looper tension meter in finishing mill for intelligent hot strip width control," in Proc. of the 3rd Rolling Symposium, Korean Society for

Technology of Plasticity, pp. 423-428, 1999.

- Wan Kee Hong, Pil Ho Kim, Joon Jeong Yi, and Young Hoon Moon, "Looper tension measuring system for hot strip width control in finishing mill," in Proc. of the International Conference on Advanced Forming and Die manufacturing Technology, pp. 303-309, 1999.
- Pil Ho Kim, Myung Sik Chun, and Young Hoon Moon, and Joon Jeong Yi, "Determination of carbon equivalent equation by using neural network for roll force prediction in hot strip mill," Journal of the Korean Society for Technology of Plasticity, vol. 6, no. 6, pp. 482-488, 1997.
- Pil Ho Kim, Young Hoon Moon, and Joon Jeong Yi, "Precise roughing mill edger roll gap measuring system," in Proc. of the 9th POSCO Advanced Technology Conference 9th, Pohang, Korea, pp., 1997.
- Pil Ho Kim, Myung Sik Chun, Young Hoon Moon, and Joon Jeong Yi, "Determination of carbon equivalent equation by using neural network for roll force prediction in hot strip mill," in Proc. of the Intelligent processing and manufacturing of materials, Gold Coast, Australia, pp. 303-309, 1997.
- Pil Ho Kim and Hong Jeong, "Development of slab width measuring sensor and communication systems," in Proc. of the 2nd Rolling Symposium, Korean Society for Technology of Plasticity, pp. 256-261, 1996.
- Young Hoon Moon, Pil Ho Kim, and Joon Jeong Yi, "Development of refining model and set-up simulator for the accurate roll gap set-up in the hot strip finishing mill," in Proc. of the 2nd Rolling Symposium, Korean Society for Technology of Plasticity, pp. 295-303, 1996.
- Pil Ho Kim and Hong Jeong, "MRF binocular stereo vision using pyramid image sequence," in Proc. of the IEEK Conference, Seoul, Korea, pp. 881-884, 1995.

Patents

- Pil Ho Kim and Myung Sik Chun, "Ultrasonic distance measuring apparatus using neural network," KR 1003992360000.
- Pil Ho Kim and Joon Jeong Yi, "System for measuring camber of slab using pyramid image," KR 1003810980000.
- Pil Ho Kim, "System for measuring camber of slab using color image analysis system," KR 1003810980000.
- Pil Ho Kim and Joon Jeong Yi, "Edger roll gap measuring system using ultrasonic sensor," KR 1003705660000.
- Pil Ho Kim, Young Hoon Moon, and Joon Jeong Yi, "Automatic measuring equipment of gap of edger roll," KR 2002071980000.
- Pil Ho Kim and Jae Chul Park, "Method for deducing the algorithm of hot forging pass schedule in the quadrilateral bar forging," KR 1004315980000.
- Wan Kee Hong, Pil Ho Kim, and Joon Jeong Yi, "Device for detecting tension of material of finishing mill," KR 1003682500000.
- Pil Ho Kim, Yong Kwon Kim, and Young Hoon Moon, "Device for precise clamping for full-length tension run-out table transporting system," KR 2002609200000.
- Young Hoon Moon, Pil Ho Kim, and Joon Jeong Yi, "Apparatus for automatically measuring distance between edger tools in hot rolling facility," KR 1003266820000.
- Wan Kee Hong, Myung Sik Chun, and Pil Ho Kim, "Apparatus for preventing slip of steel sheet passing through tension threading system in hot rolling," KR 1002931910000.
- Pil Ho Kim, Young Hoon Moon, and Joon Jeong Yi, "Apparatus for automatic measuring of gaps between edger tools by using air pressure," KR 1003065910000.
- Wan Kee Hong, Pil Ho Kim, and Yong Kwon Kim, "Apparatus for converting clamping mode of front and rear parts of material to be processed in tension threading system on hot rolling traveling stand," KR 1002931920000.
- Hong Jeong, Pil Ho Kim, and Tae Ho Kim, "Measuring device of the size of slab width laser," KR 1002700760000.
- Tae Ho Kim and Pil Ho Kim, "Measuring device and method of sleeve width with laser," KR 1002701230000.
- Pil Ho Kim, "Variously formed slab width measuring apparatus and its method," KR 1004736820000.