

PIL HO KIM

School Address

Department of Information Engineering
and Computer Science
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EDUCATION

Doctor of Philosophy, Electrical and Computer Engineering
Georgia Institute of Technology, Atlanta, GA, USA August 2009

Master of Science, Electronic and Electrical Engineering
Pohang University of Science and Technology, Pohang, South Korea February 1996

Bachelor of Science, Electronic Engineering
Pusan National University, Pusan, South Korea February 1994

PROFESSIONAL EXPERIENCE

University of Trento, TN, Italy Marie Curie Research Fellow
Department of Information Engineering and Computer Science May 2010 - present

- Lifelog event management system development. Archive the personal lifelogs and develop APIs for media event detection engine development.
- Build and manage the eLifeLog.org community around the world.

VP Technologies Inc., Atlanta, GA, USA Research Staff Member
R&D August 2009 - April 2010

- Working on the mobile computing standard for personal multimedia abstraction and content management.

Georgia Institute of Technology, Atlanta, GA, USA Research Assistant
Electrical and Computer Engineering August 2002 - July 2009

- Develop the E-model database system to support heterogeneous data models for information chronicling. It achieved 224 times faster performance than XML and 17 times faster than RDBMS for the unstructured query.
- Invent the extended SQL language, EML, to support unstructured query, semantic expansion, unified object namespaces, transactional temporal query, ranking ordering and path query for personal information management.
- US DOT traffic sign detection algorithm that achieved 0% false-negative and 20% false-positive error.

IBM T.J. Watson Research Center, Hawthorne, NY, USA Research Intern
Pervasive Computing Solutions May - August 2005

- Implement personal information chronicling solutions for IBM enterprise environments.

Research Institute of Industrial Science and Technology, Pohang, South Korea
Facility & Automation Research Center

Research Staff Member
December 1995 - July 2002

- Contribute to 22 industrial enterprise data management and automation projects as a principle/co-PI researcher.
- Develop engineering software (selected): (1) Roughing mill plant design software (1997-2000): 0.25 million lines MFC/C++, (2) Free forging mill scheduler (2001-2002): 0.15 million lines MFC/C++.
- Awarded two-year early promotion for high evaluations from customers.

Pohang University of Science and Technology, Pohang, South Korea
Electronic and Electrical Engineering

Research Assistant
March 1994 - December 1995

- Hierarchical mean field algorithm for stereo vision.
- Real-time moving slab (44 mile/hour) warp measuring computer vision system for POSCO #2 thick-plate plant.
- Slab 3D size meter using laser range finders and computer vision for POSCO #1 hot-plate plant.

PUBLICATIONS

Ph.D. Thesis: “E-model: Event-based graph data model theory and implementation,” Completion Date: August 2009 Advisor: Dr. Vijay Madisetti, Georgia Institute of Technology, Dr. Ramesh Jain, University of California, Irvine.

M.S. Thesis: “Hierarchical mean field algorithms for binocular stereo vision,” Completion Date: Feb. 1996 Advisor: Dr. Hong Jeong, Pohang University of Science and Technology, South Korea.

Journal

1. Pil Ho Kim and Fausto Giunchiglia, “On a unified model for heterogeneous & unstructured events,” submitted to the IEEE Transactions on Knowledge and Data Engineering for review, 2011.
2. 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.
3. Pil Ho Kim, Myungsik Chun, Joonjeong Yi, and Younghoon Moon, “Pass schedule algorithms for hot open die forging,” *Journal of Materials Processing Technology*, vol. 130-131, pp. 516-523, 2002.
4. Wanki Hong, Pil Ho Kim, Younghoon Moon, and Joonjeong 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.
5. Pil Ho Kim, Myungsik Chun, and Younghoon Moon, “Development of process design software in roughing mill,” *RIST Journal of R&D*, vol. 14, pp. 342-347, 2000.
6. Pil Ho Kim, Myungsik Chun, and Younghoon Moon, and Joonjeong 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.

Conference and Workshop

1. Pil Ho Kim and Fausto Giunchiglia, “Lifelog Event Management: Crowd Research Case Study.” Accepted for publication in *Proceedings of the EiMM 2011: 3rd ACM Workshop on Events in Multimedia*, 2011.
2. Pil Ho Kim, “Web-based research collaboration service: Crowd lifelog research case study.” Accepted for publication in *Proceedings of the 7th international conference on Next Generation Web Service Practices*. IEEE, 2011.
3. 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.
4. 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.

5. 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.
6. 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.
7. Amarnath Gupta, Bin Liu, Pil Ho Kim, and Ramesh Jain, "Using stream semantics for continuous queries in media stream processors," in Proc. of the 20th International Conference on Data Engineering: IEEE Computer Society, 2004.
8. 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, Maison de la Chimie, Paris, France, pp. 19-26, 2004.
9. 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.
10. Pil Ho Kim, Myungsik Chun, Joonjeong Yi, and Younghoon 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.
11. Pil Ho Kim, Myoungsik Chun, and Joonjeong Yi, "Rough mill process schedule and process designing algorithms and implementation," in Proc. of the 4th Rolling Symposium, Korean Society for Technology of Plasticity, Pohang, Korea, pp. 789-797, 2001.
12. Wankee Hong, Pil Ho Kim, Joonjeong Yi, and Younghoon 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.
13. Wankee Hong, Pil Ho Kim, Joonjeong Yi, and Younghoon 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.
14. Pil Ho Kim, Younghoon Moon, and Joonjeong Yi, "Precise roughing mill edger roll gap measuring system," in Proc. of the 9th POSCO Advanced Technology Conference 9th, Pohang, Korea, pp., 1997.
15. Pil Ho Kim, Myungsik Chun, Younghoon Moon, and Joonjeong 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.
16. 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.
17. Younghoon Moon, Pil Ho Kim, and Joonjeong 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.
18. 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.

Patent Granted

1. Pil Ho Kim and Jaechul Park, "Hot free forging pass schedule design," KR-10-0431598, 4 May 2004.
2. Pil Ho Kim and Myungsik Chun, "Underwater ultrasonic range sensor using neural networks," KR-10-0399236, 9 September 2003.
3. Pil Ho Kim and Joonjeong Yi, "Slab camber measuring image processing system using hierarchical image sequences," KR-10-0381099, 8 April 2003.
4. Pil Ho Kim, "Slab camber measuring image processing system using color features of image sequences," KR-10-0381098, 8 April 2003.
5. Wankee Hong, Pil Ho Kim, and Joonjeong Yi, "Material tension meter for finishing mill," KR-10-0368250, 3 January 2003.
6. Pil Ho Kim and Joonjeong Yi, "Edger roll gap meter using ultrasonic sensor," KR-10-0370566, 17 January 2003.
7. Pil Ho Kim, Yongkwon Kim, and Younghoon Moon, "Precise clamping device for full-length tension run-out table transporting system," KR-20-0260920, 4 January 2002.

8. Younghoon Moon, Pil Ho Kim, and Joonjeong Yi, "Automatic edger roll gap distance meter in hot rolling plants," KR-10-0326682, 19 February 2002.
9. Pil Ho Kim, Younghoon Moon, and Joonjeong YI, "Telescopic automatic edger roll gap meter," KR-10-0306590, 10 August 2001.
10. Wankee Hong, Myungsik Chun, and Pil Ho Kim, "Hot coil slipping protection system in hot roll plants," KR-10- 0293191, 2 April 2001.
11. Pil Ho Kim, Younghoon Moon, and Joonjeong Yi, "Automatic edger roll gap meter using air pressure," KR-10- 0306591, 10 August 2001.
12. Wankee Hong, Pil Ho Kim, and Yongkwon Kim, "Automatic coil-ends clamping mode changing methods for run- out table in full-length tension," KR-10-0293192, 2 April 2001.
13. Hong Jeong, Pil Ho Kim, and Taeho Kim, "Slab size meter using laser range finder," KR-10-0270076, 27 July 2000.
14. Pil Ho Kim, Younghoon Moon, and Joonjeong Yi, "Roughing mill automatic edger roll gap distance meter," KR- 10-0265426, 14 June 2000.
15. Taeho Kim and Pil Ho Kim, "Laser hot slab width meter and its method," KR-10-0270123, 27 July 2000.
16. Pil Ho Kim, Younghoon Moon, and Joonjeong Yi, "Automatic edger roll gap meter using the rotating arm," KR- 20-0207198, 6 October 2000.
17. Pil Ho Kim, "Atypical slab width meter," KR-10-2000-0051995, 4 September 2000.

RESEARCH HONORS AND AWARDS

- Rotary International, Multi-year ambassadorial scholarship award, USA, 2002.
- National study abroad program award, Institute of Information Technology Advancement, Ministry of Information and Communication, South Korea, 2002.
- POSCO, Advanced technology award, South Korea, 1996.
- Pusan national university, Summa cum laude award, South Korea, 1994.

PROFESSIONAL ACTIVITIES

- Journal reviewer: IEEE Transactions on Multimedia, 2005-present.
- Organization volunteer: International Conference on Data Engineering, April 2006, Atlanta, GA, USA.
- Visiting research: Imaging Systems Laboratory, Hewlett-Packard Labs, June 2003.
- Teaching assistant: Electronic circuit system experiments, Pohang Univ. of Sci. and Tech., South Korea, 1994.

SKILLS

Database (2002-present): Hybrid graph database system implementation, SQL stored procedures and functions programming, SQL language extension (EML).

Multimedia processing (1994-present): Real-time video signal acquisition and analysis, color image segmentation, traffic sign detection and type classification, stereo vision.

Enterprise data management and Industrial automation (1994-2002): Real-time operation data monitoring system, range and size meter using laser and computer vision, on-line hot slab warp measuring computer vision system.

MFC & C/C++ programming (1994-present): Personal information chronicling tools, plant design engineering software, cost optimization analysis tools.

Web programming (2002-present): Multimedia database application using MySQL, PHP and AJAX on Apache.

REFERENCES

- Ramesh Jain (jain@ics.uci.edu), Tel: +1-949-824-0133, Donald Bren Professor in Information & Computer Sciences, Department of Computer Science, Bren School of Information and Computer Sciences, University of California, Irvine, USA., <http://www.ics.uci.edu/~jain/>
- Vijay Madisetti (vijay.madisetti@ece.gatech.edu), Tel: +1-404-385-6409, Professor, Electrical and Computer Engineering, Georgia Institute of Technology, USA., <http://users.ece.gatech.edu/~vkm>
- Gopal Pingali (gpingali@us.ibm.com), Tel: +1-914-784-7361, Research Staff Member, IBM T.J. Watson Research Center, USA, <http://www.research.ibm.com/people/g/gpingali/>
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