

# Chang Hwan Peter Kim

## Curriculum Vitae

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Ph.D. Student  
Department of Computer Sciences  
The University of Texas at Austin, USA

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### RESEARCH INTERESTS

Topics in software engineering that aim to automate software development. In particular, program analysis and transformation, feature-oriented programming, aspect-oriented software development, programming languages and environments, compilers, model-driven development and requirements engineering.

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### EDUCATION

- Ph.D. Student, CS Department, The University of Texas at Austin, USA, January 2008 – Present. GPA: 4.00 (to date). Advisor: Prof. Don Batory
- Combined BAsc./MAsc., ECE Department, University of Waterloo, Canada, June 2006. Advisor: Prof. Krzysztof Czarnecki
  - An accelerated program for obtaining a thesis-oriented master's degree in 1 year rather than 2
  - MAsc., June 2006. GPA: 93.4% (4.00)
    - Thesis, "On the Relationship between Feature Models and Ontologies", available at <http://www.cs.utexas.edu/~chpkim/chpkim-masc-thesis.pdf>
  - BAsc. in Honours, Computer Engineering, With Distinction. June 2005. GPA: 85.3% (3.73)

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### PUBLICATIONS

#### *Refereed journal/magazine publications*

- K. Czarnecki, M. Antkiewicz, and C. H. P. Kim. Multi-Level Customization in Application Engineering. *Communications of the ACM (CACM)*, Volume 49, Issue 12, December, 2006. Available at <http://portal.acm.org/citation.cfm?doid=1183236.1183267>

#### *Refereed conference publications*

- C. H. P. Kim, C. Kaestner, and D. Batory. On the Modularity of Feature Interactions. In *Proceedings of Generative Programming and Component Engineering (GPCE 2008)*, Nashville, Tennessee, USA, October 19-23, 2008. ACM Press. Available at <http://www.cs.utexas.edu/~chpkim/GPCE36-Kim.pdf>
- K. Czarnecki, C. H. P. Kim, and K. T. Kalleberg. Feature models are Views on Ontologies. In *Proceedings of Software Product Line Conference (SPLC 2006)*, Baltimore, Maryland, USA, August 21-24, 2006, IEEE CS. Available at <http://www.cs.utexas.edu/~chpkim/splc06.pdf>
- C. H. P. Kim and K. Czarnecki. Synchronizing Cardinality-Based Feature Models and Their Specializations. In *Proceedings of European Conference on Model Driven Architecture: Foundations and Applications (ECMDA 2005)*, Nuremberg, Germany, November 7-10, 2005, LNCS 3748. Available at <http://www.cs.utexas.edu/~chpkim/ECMDA05-FeatureModeling.pdf>

#### *Refereed workshop publications*

- C. H. P. Kim, K. Czarnecki, and D. Batory. On-Demand Materialization of Aspects for Application Development. In Proceedings of the 6<sup>th</sup> Workshop on Software Engineering Properties of Languages and Aspect Technologies (SPLAT 2008), co-located with AOSD 2008. Available at <http://www.cs.utexas.edu/~chpkim/chpkim-materializable-splat08.pdf>.
- K. Czarnecki and C. H. P. Kim. Cardinality-based feature modeling and constraints: a progress report. In Proceedings of International Workshop on Software Factories (co-located with OOPSLA 2005), San Diego, USA, October 16-20, 2005. Available at <http://www.cs.utexas.edu/~chpkim/softwareFactories05.pdf>

#### *Edited volumes*

- B. Berenbach and C. H. P. Kim (editors). Proceedings of the First international Workshop on Requirements Engineering Visualization (REV 2006), held with IEEE Requirements Engineering (RE 2006), September 11, 2006, IEEE Digital Library. Available at <http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=4026780&isYear=2006>

#### *Posters and demonstrations*

- K. Czarnecki, M. Antkiewicz, C. H. P. Kim, S. Lau and K. Pietroszek. fmp and fmp2rsm: Eclipse Plug-Ins for Modeling Features Using Model Templates. In OOPSLA'05 Companion, OOPSLA 2005, San Diego, USA, Oct 16-20, 2005. Available at <http://www.cs.utexas.edu/~chpkim/de23-czarnecki.pdf>
- K. Czarnecki, M. Antkiewicz, C. H. P. Kim, S. Lau and K. Pietroszek. Model-Driven Software Product Lines. In OOPSLA'05 Companion, OOPSLA 2005, San Diego, USA, Oct 16-20, 2005. Available at <http://www.cs.utexas.edu/~chpkim/pp46-czarnecki.pdf>

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## **PROFESSIONAL ACTIVITIES**

- Reviewer, IEEE Transactions on Software Engineering, 2008
- Co-Reviewer for OOPSLA 2009. Sub-Reviewer for ECOOP 2009.
- Co-Chair, Workshop on Requirements Engineering Visualization (REV2006) held with IEEE Requirements Engineering (RE) 2006 International Conference, Minnesota, September 11-15, 2006. <http://swen.uwaterloo.ca/~chpkim/re06>

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## **AWARDS AND ACHIEVEMENTS**

- IBM T. J. Watson internship offer for 2008 in Multichannel Web Interaction Group. Declined due to CPT visa restrictions on new F-1 students. Restrictions no longer apply.
- National Sciences and Engineering Research Council of Canada (NSERC – Canadian equivalent of NSF) Postgraduate Scholarship (PGS D-3) Doctoral Award (\$63,000). Held at the University of Waterloo from May 2006 – December 2007. Approved for tenure abroad, at the University of Texas at Austin, for September 2009 – December 2010.
- Ontario Graduate Scholarship (OGS) (\$15,000 for 2005-2006)
- University of Waterloo President's Scholarship, top-up for NSERC/OGS (\$40,000 for 2005 – 2009)

- NSERC Undergraduate Student Research Award in Universities (\$4,000 for 2004 September - December)
- Queen Elizabeth II Aiming for the Top Tuition Scholarship (\$14,000 for 2000 – 2006)
- Governor General’s Academic Medal for achieving the highest academic standing in high school (W.L. Mackenzie C.I., Downsview, Ontario, 2000)

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## WORK EXPERIENCE

- NASA Ames Research Center *2009 May – August*  
Moffett Field, CA  
Research Intern
- An intern in Robust Software Engineering Group, Intelligent Systems Division. Worked on code certification under the mentorship of Dr. Ewen Denney. Internship provided by Mission Critical Technologies (MCT), Inc.
- The University of Texas, Austin, TX *2008 September – December*  
Teaching Assistant for  
Object-Oriented Software Development (CS371S)
- Helped the instructor with lecture- and project-related tasks
- University of Waterloo, Waterloo, ON *2007 Jan – April*  
Teaching Assistant for *2006 May – August*  
Software Architecture and Design *2005 May – August*  
(ECE452/SE464/CS446),  
Software Engineering (ECE355)
- Helped the instructor with lecture- and project-related tasks
- IBM Toronto Lab, Markham, ON *2003 September – December*  
DB2 Tools Software Developer *2003 January – April*  
*2002 May – August*  
*2001 September – December*
- Involved in the development of DB2 Universal Database (UDB) Query Patroller; worked on most aspects including database architecture, command line interface, Query Patroller Center, security features, and national language support
  - Involved in the development of DB2 UDB Control Center, the central point of database administration; worked on numerous user interface and middle-layer components
  - Developed a wizard tool that clones OS/390 subsystems using JCL
  - Performed object-oriented functional and system-level tests using Rational XDE Tester and ClearCase
  - Fixed many customer-reported and internal defects
  - Utilized UML, entity relationship diagrams, C/C++, embedded SQL, Java, Perl, and etc.
- School of Mathematics, Thornhill, ON *2001 October – December*  
Instructor

- Taught math to students of grades 5 to 11 in a friendly environment designed to maximize student-teacher interaction

New Horizon System Solutions, IT company for *2001 January – April*

Ontario Power Generation (OPG) Inc.,

Toronto, ON

Web Developer

- Developed an online database management system and knowledge base system for the Operations Support department
- Set up security features for OPG's supply chain intranet site
- Developed web pages for HR re-engineering process
- Implemented a web interface for Operating Experience (OPEX) JIT document search

Jung Ko Taekwondo Academy and Fitness

*1997 January – 2007 December*

Part-time instructor and grader

Thornhill, ON

- Holds an official W.T.F. 4th Degree Master's Black Belt (with over 16 years of experience) in Taekwondo
- Frequently led demonstration teams
- Offered private instruction for both beginner/advanced students
- Worked as a camp counselor, taking great care of kids

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## **RESEARCH EXPERIENCE**

- Visiting J-1 Scholar, CS Department, The University of Texas at Austin, USA, September 2007 – December 2007. Advisor: Prof. Don Batory
- Ph.D. Student, ECE Department, University of Waterloo, Canada, May 2006 – December 2007. GPA: 95.3% (4.00). Advisor: Prof. Krzysztof Czarnecki
- Speaker, Workshop on Model Driven Development and Evolution of Business Applications, CASCON 2005, Richmond Hill, Canada, October 17-20, 2005.
- Participant, Summer School on Generative and Transformational Techniques in Software Engineering, Braga, Portugal, July 4-8, 2005.
- Student Volunteer, IEEE Requirements Engineering 2006, OOPSLA 2004

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## **TECHNICAL KNOWLEDGE AND EXPERIENCE**

- Fluent in C++, Java (including Eclipse plugin development), C, and Visual Basic
- Familiar with OMG notations and standards, including UML, MOF, model-driven development (MDD) and model-driven architecture (MDA)
- Experienced in UNIX (esp. AIX) multi-process programming and tools (VI, EMACS)

- Experienced in client/server web application development using Active Server Pages (ASP), SQL (MySQL, DB2, Access), DHTML, VBScript and JavaScript. Entirely developed a website that advertises new and used vehicles for a Waterloo start-up company.
- Knowledge of advanced compilers, advanced data structures and algorithms and formal methods

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## **ACTIVITIES AND INTERESTS**

- Coached in 2000 Olympic Division Canadian National Taekwondo Championship
- Volunteered for Canadian Cancer Society
- Division Council Chair for Waterloo Co-op Residence Incorporated Hammar division, a student-run residence (a member of the council for over 5 terms)
- Participated in 2001, 1998 Santa Claus Parade of Richmond Hill, 1999 Korean Seniors Walkathon and led Taekwondo demonstrations at city hall and Mel Lastman square
- Enjoys piano, golf, and soccer (playmaker for high school team and recreational teams)
- Peer tutored extensively for grade 9 - OAC students in W.L. Mackenzie C.I.

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## **STATUS**

- Citizenship: Canada
- Visa status: F-1