Kai-min Kevin Chang

http://www.cs.cmu.edu/~kkchang
kaimin.chang@gmail.com

Language Technologies Institute
Carnegie Mellon University
Pittsburgh, PA 15213, USA
Phone: (412) 268-3414

RESEARCH INTERESTS

- Machine learning, cognitive modeling, brain imaging, brain-computer interface, natural language processing, artificial intelligence, intelligent tutoring system, speech recogntion.

EDUCATION

- **Carnegie Mellon University**, Pittsburgh, PA, USA   Sep 2006 – present
  Candidate for Ph.D. in Language Technology (Expected graduation date: Dec 2010)
  Advisor: Dr. Marcel Just and Dr. Tom Mitchell
  GPA 3.92/4.00
- **Carnegie Mellon University**, Pittsburgh, PA, USA   Sep 2004 – Jun 2006
  Master in Language Technology
  Advisor: Dr. Jack Mostow and Dr. Joseph Beck
  GPA 3.94/4.00
- **University of Waterloo**, Waterloo, ON, Canada   Sep 1999 – Jun 2003
  Bachelor of Mathematics, Honours Computer Science and Psychology
  GPA 82/100, Graduated with Distinction

HONORS AND AWARDS

- Computing Innovation Fellowships Finalist, 2010.
- Google 2010 Grad CS Forum Fellowship, 2010.
- Best Paper Award at the 9th International Conference on Intelligent Tutoring Systems, 2008.
- Best Presentation Award at Language Technologies Institute Student Research Symposium, 2008.
- Language Technologies Institute Graduate Research Fellowship, 2004 – present.
- Certificate of Distinctions for Descartes, Euclid, Canadain Open, ASHEME, etc., 1997 – 1999.

SELECTED PUBLICATIONS

- **Chang, K.M.**, Mitchell, T.M., & Just, M.A. (2010). Quantitative modeling of the neural representation of objects: How semantic feature norms can account for fMRI activation. NeuroImage: Special Issue on Multivariate Decoding and Brain Reading. doi:10.1016/j.neuroimage.2010.04.271
- Mitchell, T.M., Shinkareva, S.V., Carlson, A., **Chang, K.M.**, Malave, V.L., Mason, R.A., & Just, M.A. (2008). Predicting Human Brain Activity Associated with Noun Meanings. *Science*, 320, 1191-1195.
- Beck, J.E., & **Chang, K.M.** (2007). Identifiability: A Fundamental Problem of Student Modeling. *Proceedings of the 11th International Conference on User Modeling*, Corfu, Greece, 137-146.
- **Chang, K.M.**, Beck, J.E., Mostow, J., & Corbett, A. (2006). A Bayes Net Toolkit for Student Modeling in Intelligent Tutoring Systems. *Proceedings of the 8th International Conference on Intelligent Tutoring Systems*, Jhongli, Taiwan, 104-113.

RESEARCH EXPERIENCE

- **Carnegie Mellon University**, Pittsburgh, PA, USA   Oct 2006 – present
  Research Assistant, Center for Cognitive Brain Imaging
  Supervised by Dr. Marcel Just and Dr. Tom Mitchell. Work includes applying brain imaging and machine learning methods to model the semantic representation of object knowledge and multi-word expressions, such as adjective-noun phrases and noun-noun concept combinations.

- **Carnegie Mellon University**, Pittsburgh, PA, USA   Sep 2004 – Sep 2006
  Research Assistant, Project LISTEN
  Supervised by Dr. Jack Mostow and Dr. Joseph Beck. Work included applying Knowledge Tracing and Bayesian Networks to develop a student model that describes the learner's competencies in a Reading Tutor.

- **University of Waterloo**, Waterloo, Ontario, Canada   May 2002 – Jun 2003
  Research Assistant, Department of Psychology
  Supervised by Dr. Derek Besner. Work included implementing and modifying the Dual Route Cascaded model (Coltheart et al., 2004), a connectionist model of visual word recognition and reading aloud. Written undergraduate thesis.

PROFESSIONAL EXPERIENCE

- **The Language Labs Inc.**, Taipei, Taiwan   Sep 2003 – June 2004
  Researcher, ASAS Engine Team
  Coordinated the intonation project in patented Automatic Speech Analysis System (ASAS). Assisted the laboratory to win Taiwan's two national awards on technology advancement: 2003 Taiwan itMonthAward and 2003 Taiwan Digital Technology of the Year.

- **Canadian Imperial Bank of Canada, PERC**, Toronto, ON, Canada   Sep 2000 – Dec 2000
  Software Developer, Horizon Group
  Enhanced the functionalities of a Java application used by all CIBC employees in the nation. Automated the monitoring process of error reports and improved efficiency by 80%.

- **Mitra Imaging Inc.**, Waterloo, ON, Canada   Jan 2000 – Apr 2000
  Software Developer, Management Information System
  Managed a full software development cycle of a new security package system, which administrated the external OEM access to MIS systems.

COMPUTER SKILLS

- Certification: MCP, MCSE, MCDBA, SCJP, SCJD
- Research Tools: Matlab, SPSS, R, Weka, Bayes Net Toolbox, LENS neural network toolkit, 4CAPS, ACT-R, Sphinx and Janus speech recognition system, UIMA
- Programming: Java, C/C++, Perl, TCL/TK, Lisp, Visual C++, Visual Basic, Qbasic, UML
- Networking: HTML, XML, ASP, VBScript, JavaScript, MS Win2000 Server, MS IIS
- Database: SQL, SQL Server, Oracle, MS Access, ODBC, JDBC
- Desktop Design: Adobe Photoshop, Illustrator, PageMaker, Imagine 3D, Amaya, LaTeX