

# Jaeyoung Do

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## RESEARCH INTERESTS

System-conscious database management systems, and in particular, developing efficient query processing algorithms on novel storage media, such as NAND flash SSDs and PCMs.

## EDUCATION

<b>Ph.D</b>	Computer Sciences <i>Minor: Mathematics</i> <i>Advisor: Jignesh M. Patel</i>	University of Wisconsin - Madison	Present
<b>M.S.</b>	Computer Sciences	University of Wisconsin - Madison	May 2009
<b>B.S.</b>	Computer Sciences <i>summa cum laude</i>	Korea Advanced Institute of Science and Technology	Aug 2007

## PUBLICATIONS

- J. Do, J. Patel, “Join Processing for Flash SSDs: Remembering Past Lessons”, *DaMoN*, 2009.
- R. Bradley, A. Roberts, M. Smoot, S. Juvekar, J. Do, C. Dewey, I. Holmes, L. Pachter, “Fast Statistical Alignment”, *PLoS Computation Biology*, 2009.
- J. Do, “Improving the Performance of Multiple Sequence Alignment with a Workstation Cluster and a Database”, *Master’s Thesis, UW-Madison*, 2009.

## EXPERIENCES

<b>Research Assistant</b> Sep 2009 – Present	<b>Jim Gray Systems Lab, Microsoft, Madison, WI</b> Conducting research on integrating flash SSDs into SQL Server 2008, working with Dr. Donghui Zhang. I am participating in the design and development of a component, which uses a flash SSD as a cache between the main memory and hard disk drives.
Jan 2009 – May 2009	<b>Department of Computer Sciences, University of Wisconsin, Madison, WI</b> Conducted research on join algorithms tailored to the performance characteristics of NAND flash solid state drives. Specifically, I focused on which techniques of <i>ad hoc</i> join algorithms optimized for hard disk drives still apply to joins using flash SSDs.

- May 2008 – Nov 2008     **Department of Computer Sciences, University of Wisconsin, Madison, WI**  
 Participated in the development of a distance-based multiple sequence alignment system under the supervision of Prof. *Colin Dewey*. The system is available on the Web at [fsa.sourceforge.net/index.html](http://fsa.sourceforge.net/index.html). In particular, I was on the development team to parallelize aspects of method, and conducted experiments with +100 machines.
- Teaching Assistant**     **Department of Computer Sciences, University of Wisconsin, Madison, WI**  
 Jan 2007 – May 2007     Taught JAVA, lead two weekly lab sections of 30 students, and graded programming assignments, quizzes, and exams.
- Sep 2005 – Feb 2007     **Department of Computer Science, KAIST, Daejeon, South Korea**  
 Participated in “Location Data Stream Management System project”, under the supervision of Prof. Chinwan Jung. Developed and implemented efficient algorithms for processing real-time aggregation queries and removing RFID data duplications.
- Software Developer**     **Graduate School of Culture and Technology, KAIST, Daejeon, South Korea**  
 Mar 2006 – Oct 2006     As a main developer of an interactive media art, created audio/visual effect programs, and developed algorithm, which tracks user’s feedback and reflects them into the artwork.
- Intern**     **SUN Microsystems, Boulder, CO**  
 Jan 2005 – Feb 2005     Managed an Oracle database server and designed, built, and maintained “Employee Training & Education Management System” with Java, JSP, and Oracle database.

## PATENTS

- Navigation Service System and Method for Blind Individuals, *No. 10-2006-0045931*, Korea Patent, 2006.

## HONORS & AWARDS

- Aug 2007 – Aug 2011     Samsung Scholarship for Graduate Study, *Samsung*  
 Mar 2003 – Dec 2006     Academic Scholarship, *Korea Science and Engineering Foundation*  
 Apr 2006     Undergrad. Research Scholarship, *KAIST*  
 Jul 2004     National Scholarship, *Ministry of Information and Communication*  
 Jun 2004     LG Global Challenger, Grand Prize, *LG*

## SKILLS

- Languages: English, Korean,
- Programming Languages: C/C++, Java, SQL, PHP, JSP, Java Script
- DBMSs: Oracle, SQL Server, MySQL, PostgreSQL, SQLite
- Development experience on Solaris, Linux, Mac and Windows

\* References are available upon request \*