

# Ja Chun Ku

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<b>EDUCATION</b>	<p><b>Sept 2003 – Present                      NORTHWESTERN UNIVERSITY                      Evanston, IL</b>  <b>Ph.D. Student in Computer Engineering</b></p> <ul style="list-style-type: none"> <li>§ Expected Graduation: June 2007</li> <li>§ Advisor: Prof. Yehea Ismail</li> <li>§ Cumulative GPA: 3.73/4.0</li> <li>§ Concentration: Thermal Effects on VLSI Circuits</li> <li>§ Research Area: Changes in design methodologies and optimization techniques for VLSI circuits under thermal effects, low-power design and leakage control issues, analysis of thermal-induced problems and circuit/physical level solutions, thermal network and circuit modeling issues, etc.</li> <li>§ Significant Coursework: Interdisciplinary Nonlinear Dynamics, Linear System Theory, Digital Signal Processing, Algorithms, VLSI Algorithmics, Microelectronic Technology, Heat Transfer</li> </ul>
	<p><b>Sept 1999 – June 2003                      NORTHWESTERN UNIVERSITY                      Evanston, IL</b>  <b>Bachelor of Science in Computer Engineering</b></p> <ul style="list-style-type: none"> <li>§ Cumulative GPA: 3.65/4.0</li> <li>§ Significant Coursework: Design and Analysis of High-Speed Integrated Circuits, VLSI Systems Design, VLSI CAD, ASIC Design, Microprocessor System Design, Computer Architecture, Operating Systems, Data Structures, Probabilistic Systems and Random Signals</li> </ul>
	<p><b>Aug 1995 – June 1999                      UNITED WORLD COLLEGE OF S.E.ASIA                      Singapore</b>  <b>International Baccalaureate Diploma</b></p>
<b>HONORS &amp; AWARDS</b>	<ul style="list-style-type: none"> <li>§ Appointed as a Dean's Scholar <span style="float: right;"><b>1999</b></span></li> <li>§ Awarded in American High School Mathematics Examination <span style="float: right;"><b>1998</b></span></li> </ul>
<b>RESEARCH EXPERIENCES</b>	<p><b>2003 – Present                      NORTHWESTERN UNIVERSITY                      Evanston, IL</b>  <b>Research Assistant</b></p> <ul style="list-style-type: none"> <li>§ Thermal effects on estimating the effectiveness of power reduction techniques</li> <li>§ Thermal-aware power reduction techniques for on-chip caches</li> <li>§ Analysis and prevention of thermal runaway in VLSI circuits</li> <li>§ Area optimization of VLSI design for leakage reduction using thermal effects</li> </ul>
<b>PUBLICATIONS</b>	<ul style="list-style-type: none"> <li>§ Ja Chun Ku and Yehea Ismail, <i>Area Optimization for Leakage Reduction and Thermal Stability in Nanometer Scale Technologies</i>, To appear in Proc. Asia and South Pacific Design Automation Conference (ASP-DAC), Jan. 2006 (Invited paper)</li> <li>§ Ja Chun Ku, Serkan Ozdemir, Gokhan Memik, Yehea Ismail, <i>Thermal Management of On-Chip Caches Through Power Density Minimization</i>, To appear in Proc. IEEE/ACM International Symposium on Microarchitecture (MICRO-38), Nov. 2005</li> <li>§ Ja Chun Ku, Maged Ghoneima, Yehea Ismail, <i>The Importance of Including Thermal Effects in Estimating the Effectiveness of Power Reduction Techniques</i>, in Proc. IEEE Custom Integrated Circuits Conference (CICC), pp. 301-304, Sep. 2005</li> </ul>
<b>COMPUTER TOOL &amp; PROG</b>	<ul style="list-style-type: none"> <li>§ <b>Operating Systems:</b> Windows, UNIX</li> <li>§ <b>Programming Languages:</b> C/C++, MATLAB, Perl, VHDL</li> <li>§ <b>EDA Tools:</b> SPICE, Mentor Graphics, Synopsys EDA Suite, SIS, ANSYS</li> </ul>

<b>WORK EXPERIENCES</b>	<p><b>Summer 2005                      SAMSUNG ELECTRONICS                      Yongin, Korea</b>  <b>Graduate Intern</b></p> <ul style="list-style-type: none"> <li>§ Worked in Smart Card Design / System LSI Division / Semiconductor Business</li> <li>§ Involved in the design of 512KB EEPROM in 0.11um technology</li> <li>§ Work included: device model characterizations, parasitic extractions and circuit modeling, functional and timing verification via simulations, circuit analysis</li> </ul>
	<p><b>Jan 2005 – Dec 2005                      NORTHWESTERN UNIVERSITY                      Evanston, IL</b>  <b>Teaching Assistant</b></p> <ul style="list-style-type: none"> <li>§ ECE391: VLSI Systems Design</li> <li>§ ECE493: Design and Analysis of High-Speed Integrated Circuits</li> </ul>
	<p><b>Sept 2001 – June 2002                      NETWORK DEPT. NU LIBRARY                      Evanston, IL</b>  <b>PC &amp; Network Assistant</b></p> <ul style="list-style-type: none"> <li>§ Assisted with the maintenance along with software and hardware upgrades</li> </ul>
	<p><b>Summer 2001                      CNN SEOUL BUREAU                      Seoul, Korea</b>  <b>Intern</b></p> <ul style="list-style-type: none"> <li>§ Researched new stories</li> <li>§ Supported the camera in the field, helping in the production of daily news</li> </ul>
<b>REFERENCES</b>	<ul style="list-style-type: none"> <li>§ Prof. Yehea Ismail, Northwestern University (ismail@ece.northwestern.edu)</li> <li>§ Prof. Gokhan Memik, Northwestern University (memik@ece.northwestern.edu)</li> </ul>