

# Michael E. Bauer

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**Stanford University:** Stanford, CA, September 2008 – Present

Ph.D. Candidate in the Department of Computer Science

Advisor: Alex Aiken

**Duke University:** Durham, NC, August 2004- May 2008

Major: Electrical Computer Engineering, Mathematics, and Computer Science (triple major)

## Academic Honors:

Magna Cum Laude

Honors in Electrical Engineering, Thesis: *Proving the Completeness of Error Detection Mechanisms in Simple Core Chip Multiprocessors*

High Honors in Mathematics, Thesis: *Faraday Waves Arising from Square Wave Forcing of the Damped Mathieu Equation*

GPA 3.865/4.000, Dean's List with Distinction, Fall 2004, Spring 2005, Spring 2006, Spring 2008 Dean's List Fall 2005, Spring 2007

Honor Societies: Tau Beta Pi, Eta Kappa Nu

Pratt Fellow, Pratt School of Engineering, Spring 2007-Spring 2008

PRUV Fellow, Duke University Math Department, Spring 2005-Spring 2008

## Publications:

Albert Meixner, Michael E. Bauer, and Daniel J. Sorin. "Argus: Low-Cost Comprehensive Detection of Errors in Simple Cores." In IEEE Micro's "Top Picks" in computer architecture, January 2008.

Albert Meixner, Michael E. Bauer, and Daniel J. Sorin. "Argus: Low-Cost, Comprehensive Detection of Errors in Simple Cores." In *40th Annual IEEE/ACM International Symposium on Microarchitecture*, December 2007.

Michael E. Bauer, Kshipra Bhawalkar, Matthew D. Edwards. "Boarding at the Speed of Flight" Paper originally submitted in completion of the Mathematical Contest in Modeling, in the UMAP Journal, Fall 2007

Bogdan F. Romanescu, Michael E. Bauer, Daniel J. Sorin, and Sule Ozev. "Reducing the Impact of Process Variability with Prefetching and Criticality-Based Resource Allocation" Poster and extended abstract in *Sixteenth International Conference on Parallel Architectures and Compilation Techniques*, September 2007

## Science and Mathematics Competitions:

Mathematical Competition in Modeling: Outstanding Ranking (top <1%), Spring 2007

ACM Mid-Atlantic Regional Programming Competition: 17<sup>th</sup> out of 126 teams

Fall 2005, 16<sup>th</sup> out of 136 teams Fall 2006

Competed in Virginia Tech Math Meet, Putnam with Duke Math Union

## Activities:

Wesley Fellowship: Student Pastor Fall 2006- Spring 2007, Member Fall 2004 - Present

Teaching Assistant Duke ECE Department: ECE 61: Fall 2005 and Spring 2006

ECE 51: Fall 2006, ECE 52: Fall 2006 and Fall 2007, ECE 152: Spring 2008

Formula SAE Competition, finished 31<sup>st</sup> out of 140 schools, May 2005

**Hereford High School:** Parkton, MD, August 2000 – May 2004

## Academic Honors:

Valedictorian (1<sup>st</sup> of 284), GPA 4.00/4.00 un-weighted, 5.35 weighted

National Merit Scholarship Honorable Mention, Maryland Distinguished Scholar, AP

National Scholar, Baltimore County Male Scholar Athlete of the Year 2004

National Honor Society, Math Honor Society, National Foreign Language Honor Society.

**Research and Work Experience:**

**Pratt Fellow, Dr. Daniel Sorin, Department of Electrical and Computer Engineering, Duke University** – Will be beginning work with Dr. Sorin in the Spring of 2007 to analyze the effects of manufacturing process variability on computer performance and faults. Will be designing tunable computer architectures to detect and overcome effects of variability.

**PRUV Fellow, Dr. Anne Cattlá, Department of Mathematics, Duke University** – Working with Dr. Cattlá since Spring of 2006 to better understand the formation of patterns in the Faraday experiment; specifically utilizing Floquet Theory to analyze the stability of solutions resulting from square wave forcing.

**Intern, Joey Raynes, Electrical Engineering Ground Control Systems, AAI Corporation** – Interned with Mr. Raynes during Summer 2005, validating joysticks and analyzing the potential of developing a wireless ground communications system for Unmanned Aerial Vehicles (UAV's), obtained Secret security clearance from the Department of Defense

**Intern, Tim Hansen, Electrical Engineering Research and Development, Becton Dickinson** – Interned with Mr. Hansen during Summer 2004 and during winter break 2004, helped with installation and testing of prototype medical equipment

**Intern, Dr. Morris Swartz, Experimental Particle Physicist, Johns Hopkins University** – Interned with Dr. Swartz during Summer 2003, wrote computer programs in C to analyze data from the CERN (Switzerland) particle accelerator necessary to calibrate its detector and provide additional data analysis capabilities

**Other Accomplishments:**

**Eagle Scout:** Boy Scouts of America, November 11, 2003

**Finisher:** 2007 Boston Marathon 2:52:43 (446<sup>th</sup> out of 20,388)