JÓN TÓMAS GRÉTARSSON

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EDUCATION

Stanford University, Stanford, CA 09/2006 – current
M.S. / Ph.D. in Computational and Mathematical Engineering (GPA 3.86/4.00)

PRIMARY COURSES

Numerical Linear Algebra
Partial Differential Equations in Applied Mathematics
Numerical Solutions of Partial Differential Equations
Numerical Optimization
Discrete Mathematics and Algorithms
Stochastic Methods in Engineering

Worcester Polytechnic Institute, Worcester, MA 08/2002 – 05/2006
B.S. in Computer Science, with a minor in Mathematics (GPA 3.57/4.00) High Distinction

MAJOR PROJECTS

Wargaming Modeling and Visualization 08/2005 – 11/2005
Senior Project designing and implementing a space wargaming engine and related optimization algorithms, for Lincoln Laboratory at MIT.

Serving All Types of Learners 02/2006 – 05/2006
Junior Project studying how the SAT is affected by MBTI type, and its implications for college admissions.

Japanese Acquisition 08/2002 – 05/2004
Sophomore Project spanning two years for Japanese language studies.

Yamasa Institute, Okazaki, Japan 04/2004 – 06/2004
SILAC - Short Intense Language Acquisition Courses Japanese

EXPERIENCE

Stanford University, Stanford, CA 07/2007 – current
Research Assistant – Worked in Ron Fedkiw's research lab, developing numerical methods for the simulation of fluids and interfaces.

Google Inc, Mountain View, CA 06/2008 – 09/2008
Intern – Designed and implemented software to replace the functionality of Mailman, and is compatible with the Google Groups framework and existing spam, abuse and delivery solutions.

Google Inc, Mountain View, CA 06/2007 – 09/2007
Intern – Implemented an algorithm involving a one-pass log-storage algorithm for counting the frequency of strings in a large data set. Designed and Implemented an email bounce tracker expected to prevent 600 mesages per second from failed deliveries.

Lincoln Laboratory at MIT, Cambridge, MA 05/2006 – 09/2006
Intern – Developed optimal scheduling algorithms for the SBSS (Space-Based Space Surveillance) project, involving discrete optimization of 10^3 variables over a continuous interval.

Intel Corporation, Hudson, MA 04/2005 – 08/2005
Intern – developed XML-aware routing software to demo next-gen technology. Became local expert in IXP-C, an in-house language similar to C and made recommendations on the IXP-C compiler and good coding practice.

Callidus Consulting Inc, Worcester, MA 08/2003 – 10/2004
Co-founder – Created an independent technology consulting company providing web design and business technology solutions to corporate customers such as the American Antiquarian Society and Tatnuck Booksellers.

WPI Game Development Club, Worcester, MA 01/2003 – 08/2003
Lead Web Developer – Redesigned website layout, incorporating XML and JSP technology.

WPI Academic Computing, Worcester, MA 03/2002 – 08/2003
Technical Assistant – Assisted with the maintenance and repair of 4 computer labs. Updated software and patches.

University of Michigan, Ann Arbor, MI 04/2001 – 08/2001
Research Assistant – Conducted measurements of pulsed air jets, and processed data using Perl.

HONORS AND AWARDS

- WPI Deans Scholar (2002-2006)
- NEWMAC Men's Swimming & Diving Academic All-Conference Team (2006)

PUBLICATIONS

- M Lentine, J Gretarsson, C Schoeder, and R Fedkiw. Creature Control in a Fluid Environment. *submitted*.
- N Kwatra, J Su, J Gretarsson, R Fedkiw. A Method for Avoiding the Acoustic Time-Step Restriction in Compressible Flow. Journal of Computational Physics (in press).
- A Robinson-Mosher, T Shinar, J Gretarsson, J Su, R Fedkiw. Two-way Coupling of Fluids to Rigid and Deformable Solids and Shells. SIGGRAPH 2008, ACM TOG 27, 46.1-46.9 (2008).
- J Gretarsson, F Li, M Li, A Samant, H Wu, M Claypool, and R Kinicki. Performance Analysis of the Intertwined Effects Between Network Layers for 802.11g Transmissions. *WMuNeP: Proceedings of the 1st ACM Workshop on Wireless Multimedia Networking and Performance Modeling*, pg. 123–130; October 2005.
- J Gretarsson, M Putnam, and M Shaw. Wargaming Modeling and Visualization. *Technical Report MXC-1082*. Worcester Polytechnic Institute; Fall 2005.
- J Gretarsson, A Lash, and M Forrest. Serving All Types of Learners. *Technical Report JMW-SLEW*. Worcester Polytechnic Institute; Spring 2006.

TEACHING EXPERIENCE

Stanford University

Mathematical Methods for Solids, Fluids and Interfaces 03/2009 – 06/2009
Course Assistant (ran sections, held office hours, wrote and graded homework).

Mathematical Methods for Solids, Fluids and Interfaces 03/2008 – 06/2008
Course Assistant (ran problem sessions, held office hours, wrote and graded homework).

Mathematical Methods for Computer Vision, Robotics and Graphics 09/2007 – 12/2007
Course Assistant (ran problem sessions, held office hours, and graded).

Partial Differential Equations in Engineering 01/2007 – 03/2007
Course Assistant (ran problem sessions, held office hours, and graded).

AFFILIATIONS

Association for Computing Machinery (ACM) 08/2004 – current
Current Member.

Upsilon Pi Epsilon (UPE) 08/2005 – current
Former Vice President (WPI Chapter, 2005-2006), Current Member.

Society for Industrial and Applied Mathematics (SIAM) 10/2006 – current
Co-President of Stanford Chapter (2006-2008), Current Member.

Community Advisor 09/2007 – current
Escondido Community Associate responsible for organizing several major events (1,000+ attendees).

Stanford Comedy Club 03/2007 – 03/2009
Co-President in charge of organizing and setting up a weekly comedy club.

iCME Student Representative 09/2006 – 10/2007
Student Representative for the Stanford iCME department.

VOLUNTEER WORK

Ann Arbor Blues & Jazz Festival 08/1999 – 08/2000
Bike Messenger and Setup Crew

Earn-a-Bike 04/2001 – 08/2001
Volunteer Instructor

Tanqueray North-East AIDS Ride 05/2002 – 05/2002
Volunteer Security Detail

SKILLS

- Programming Languages – PhysBAM, C, C++, IXP-C, Objective C, Java, Fortran, Matlab, Python, Perl, x86 assembly, ixp assembly, Scheme, Lisp, E-Lisp, Prolog, HTML, XML, XPath, MathML, xhtml, CSS, PHP, JSP, SQL, Flash, shell-scripting, OS X, Linux, FreeBSD, Windows, CVS, Subversion, Perforce, JUnit, LaTeX, Word, Excel.
- Natural Languages – English, Icelandic, Japanese

MISCELLANEOUS

- Webster Lake Triathlon
- New Voices 23
- Active Hiker
- WPI Swimming & Diving
- WPI Crew
- Pioneer High School Varsity Team – Swimming, Water Polo

- Sigma Pi Fraternity International
- Stanford Comedy Club Officer
- Escondido Village Community Advisor