

STEFAN CHRISTOV

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EDUCATION:

Ph.D. Candidate

University of Massachusetts Amherst, Department of Computer Science

September 2009 – Present
Amherst, MA

Master of Science, *summa cum laude* (GPA: 3.98/4.0)

University of Massachusetts at Amherst, Department of Computer Science

August 2006 – September 2009
Amherst, MA

Bachelor of Science, *summa cum laude*

State University of New York, College at Brockport

August 2002 – May 2006
Brockport, New York

- Major in **Computer Science**, Advance Computing Track (ABET accredited)
- Second Major in **Computational Science**
- Minor in **Mathematics**
- Honors student with GPA: 3.93 overall / 4.0 in major

PUBLICATIONS:

- Stefan C. Christov, George S. Avrunin, Lori A. Clarke, Leon J. Osterweil, Elizabeth A. Henneman. A benchmark for evaluating software engineering techniques for improving medical processes. *2nd Workshop on Software Engineering in Health Care, Cape Town, South Africa, May 2010 (to appear)*
- Barbara Staudt Lerner, Stefan Christov, Leon J. Osterweil, Reda Bendraou, Udo Kannengiesser, Alexander Wise. Exception handling patterns for process modeling. *IEEE Transactions on Software Engineering, Special Issue on Exception Handling (to appear)*
- Stefan Christov, George S. Avrunin, Lori A. Clarke, Philip L. Henneman, Jenna L. Marquard, and Leon J. Osterweil. Using event streams to validate process definitions. *Technical Report UM-CS-2009-004, Department of Computer Science, University of Massachusetts, Amherst, MA 01003, January 2009.*
- Jenna Marquard, Stefan Christov, Philip Henneman, Lori Clarke, Leon Osterweil, George Avrunin, Donald Fisher, Elizabeth Henneman, Megan Campbell, and Tuan Pham. Studying rigorously defined health care processes using a formal process modeling language, clinical simulation, observation, and eye tracking. In *Proceedings of the International Conference on Naturalistic Decision Making*, June 2009, London, UK, pp. 239-240. (poster)
- Barbara Staudt Lerner, Stefan Christov, Alexander Wise, and Leon J. Osterweil. Exception handling patterns for processes. In *WEH '08: Proceedings of the 4th International Workshop on Exception Handling*, pages 55–61, Atlanta, GA, USA, 2008. ACM.
- Stefan Christov, Bin Chen, George S. Avrunin, Lori A. Clarke, Leon J. Osterweil, David Brown, Lucinda Cassells, and Wilson Mertens. Formally defining medical processes. *Methods of Information in Medicine. Special Topic on Model-Based Design of Trustworthy Health Information Systems*, 47(5):392–398, 2008
- Stefan Christov, Bin Chen, George S. Avrunin, Lori A. Clarke, Leon J. Osterweil, David Brown, Lucinda Cassells, and Wilson Mertens. Rigorously defining and analyzing medical processes: An experience report. *Models in Software Engineering: Workshops and Symposia at MoDELS 2007, Nashville, TN, USA, September 30–October 5, 2007, Reports and Revised Selected Papers*, pages 118–131, 2008

RESEARCH EXPERIENCE:

Research Assistant

Lab for Advanced Software Engineering Research (LASER), University of Massachusetts

August 2006 – Present
Amherst, MA

Advisers: Professors Lori A. Clarke, George S. Avrunin, Leon J. Osterweil

Performing research on validation and analysis of formal process definitions, on process modeling languages and on exception handling patterns in processes. Currently evaluating research ideas in case studies from the medical domain.

Intern/Research Assistant

Harvard Medical School, Lab for Translational Research

June – August 2005
Cambridge, MA

Adviser: Dr. Huseyin Aktas

Developed computational tools for characterization of 5' untranslated regions of all human messenger RNA's and for determining intrinsic translational efficiency of mRNA's

Research Assistant

State University of New York, College at Brockport

June 2003 – May 2006
Brockport, NY

Adviser: Dr. Sandeep Mitra

Applied the Software Engineering Effectiveness Model (SEEM™) to develop an electronic journaling tool and a hotel reservation system and researched traceability in software development processes

RELATED COURSE WORK (undergraduate):

- Fundamentals of Computer Science I & II
- Computer Architecture
- Digital Logic and Computer Design
- Computer Organization/Assembly Language
- Software Engineering
- Software Engineering Internship
- Software Engineering Practicum
- Object Oriented Programming
- Scientific Programming in FORTRAN 90
- Operating Systems
- Theory of Programming Languages
- Algorithms and Data Structures
- Theory of Computation
- Parallel Computing
- Simulation and Modeling
- Artificial Intelligence
- Relational Databases
- Calculus I, II & III
- Discrete Mathematics I & II
- Probability and Statistics

RELATED COURSE WORK (graduate):

- Advanced Software Engineering: Analysis and Evaluation
- Advanced Software Engineering: Synthesis and Development
- Advanced Algorithms
- Computation Theory
- Combinatorics and Graph Theory
- Modern Computer Architecture
- Artificial Intelligence
- Model Checking
- Database Design and Implementation
- Research Methods
- Mathematical Statistics I
- Mathematical Statistics II

PRESENTATIONS:

- “Using Human Simulations to Validate Formal Process Definitions”. *University of Massachusetts, Department of Computer Science, Systems Lunch, December 2, 2008.*
- “Rigorously Defining and Analyzing Medical Processes”. *First International Workshop on the Model-Based Design of Trustworthy Health Information Systems, September 30, 2007.*
- Presented research on iteration in software engineering. *National Conference for Undergraduate Research and publish paper on it, Ashville, NC, 2006*
- Presented poster on software implementation for an automated journaling tool. *Consortium for Computing Sciences in Colleges – Northeastern Region, 2006*
- Presented research on software traceability. *National Conference for Undergraduate Research, Lexington, VA, 2005.*
- Presented a network benchmark project. *SUNY Brockport, Scholars Day, 2005.*

SERVICE:

- Graduate Representative (elected to represent the Computer Science graduate student body at Univ. of Massachusetts to the faculty) *January 2010 – Present*
- Member of the New Student Committee (help to organize the main event for newly admitted graduate students at the Dept. of Computer Science at Univ. of Massachusetts) *September 2008 – Present*
- President, Computer Science Club, SUNY Brockport (Vice President until September 2005) *August 2004 – January 2006*
- Treasurer, Computational Science Club, SUNY Brockport (Secretary until August 2005) *August 2004 – 2006*
- Student Volunteer, International Conference on Software Engineering, Vancouver *2009*
- Student Volunteer, Supercomputing Conference, Seattle *2005*
- Student Volunteer, International Conference on Computational Science, Atlanta *2005*

HONORS AND AWARDS

- SUNY Chancellor's Award for Student Excellence (highest award in the SUNY system) *2006*
- SUNY Brockport School of Letters and Sciences Award *2006*
- SUNY Brockport Honors Program Scholar Award *2006*
- Member of Alpha Chi, National Honors Society *2005*
- Sigma Xi Undergraduate Research Award in Computer Science *2005*
- Recipient of the annual Interdisciplinary Award in Mathematics *2004*
- Recipient of the Distinguished Scholar in Residence Award *2002, 2003, 2004, 2005, 2006*
- Recipient of National Collegiate Computer Science Award *2006*

PROFESSIONAL AFFILIATIONS:

- Member of ACM and ACM SIGSOFT
- Member of IEEE