

Matthew C. Ruschmann

Curriculum Vitae

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Research Interests

Robust Control, Nonlinear Control, Receding Horizon Control, Stochastic Control, Optimization, System Identification, Discrete Event Simulation, Perturbation Analysis.

Education *Ph.D. Electrical Engineering*, graduating Spring 2009
 [Binghamton University](#)
 Binghamton, NY
 Thesis: *Dataset Renewal Policies for Robust Asset Allocation in Air Operations*
 Adviser: Prof. N. Eva Wu
 Committee: Prof. M. Fowler, Prof. V. Nikulin, and Prof. S. Zacks
 GPA: 3.85/4.0

 M.S. Electrical Engineering, December 2006
 [Binghamton University](#)
 Binghamton, NY
 Thesis: *Receding Horizon Control of Air Operation Resource Allocation*
 Adviser: Prof. N. Eva Wu
 GPA: 3.88/4.0

 B.S. Electrical Engineering, December 2004
 [Clarkson University](#)
 Potsdam, NY
 Minor: *Mathematics*
 GPA: 3.4/4.0

Publications

Journal Articles

N.E. Wu, M.C. Ruschmann, and M.H. Linderman. Fault-Tolerant Control of a Distributed Database System. *Journal of Control Science and Engineering*, 2008(1), 2008.

N.E. Wu, Y. Guo, K. Huang, M.C. Ruschmann, and M.L. Fowler. Fault-Tolerant Tasking and Guidance of an Airborne Location Sensor Network. *International Journal of Control Automation and Systems*, 6(3):351, 2008.

Conference Papers

M.C. Ruschmann and N.E. Wu. Perturbation Analysis for Optimal Update Intervals of Data Sets. In *American Control Conference, 2008*, pages 4318–4323, 2008.

M.C. Ruschmann and Wu N.E. Optimal control of a database with reduced & full state models. In *Decision and Control, 2007 46th IEEE Conference on*, pages 2663–2668, 2007.

N.E. Wu and M.C. Ruschmann. Loop Closure for Enhanced Win Percentage in an Air Operation. In *American Control Conference, 2007*, pages 1097–1102, 2007.

Submitted Papers

Ruschmann M.C. and Wu N.E. Optimal Dataset Availability in a Distributed Database. *Discrete Event Dynamic Systems*, submitted on October 31, 2008.

M.C. Ruschmann and N.E. Wu. Robust Resource Allocation in an Air Operation Model. *IFAC Safe Process 2009*, submitted on November, 17 2008.

Magazine Publications

M.C. Ruschmann. Penny-Powered LED. *Make: technology on your time*, 7:17, 2006.

Unpublished Class Projects

M.C. Ruschmann. Robust Analysis and Stabilizing Design of Two-Port Networks. *EECE 616: Robust Control of Multivariable Networks*, Fall 2007.

M.C. Ruschmann. Rockwell Software’s Arena and Mathworks’ Simulink SimEvents, A Comparison. *SSIE 520: Modeling and Simulation*, Spring 2008.

Honors and Memberships

2006–present Student Member, *Institute of Electrical and Electronics Engineers (IEEE)*.

2002–present *Eta Kappa Nu (HKN)*. Electrical and computer engineering honor society.

1999–2000 *The Clarkson School*. Selective program for inspired high school seniors to begin their collegiate experience a year early.

Research Experience

5/2006–Present Research Assistant
SUNY Research Foundation, Binghamton University
Binghamton, NY

6/2008–8/2008 Research conducted on-site during the summer at:
Air Force Research Laboratory, Rome, NY

7/2006–8/2006 Research conducted on-site during the summer at:
Air Force Research Laboratory, Rome, NY

Relevant Work Experience

9/2005–Present Webmaster and Blog Writer
Superpositioned.com – Electronics News and Projects in the Frequency Domain

1/2005–8/2005 High Speed Data Services Representative, Tier Three
Time Warner Cable, Binghamton Division
Vestal, NY

3/2000–6/2003 Assistant to the Executive Editor and Typesetter
Sampling Publishing
Potsdam, NY

Technical Skills

Matlab, Robust Control Toolbox, Simulink, SimEvents, Arena, LabVIEW, SPICE, VisSim, C/C++, Maple, Minitab, LaTeX, and knowledgeable with Linux/Unix.

References

Available upon request.

Binghamton University, April 9, 2009, <http://matthew.ruschmann.net/cv/ruschmann.pdf>