Ted Carmichael
CURRICULUM VITAE – SHORT FORM

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RESEARCH INTERESTS

Complex Adaptive Systems (CAS), Artificial Intelligence, Data Mining, Modeling and Simulation, Cognitive Science, Heuristics and Algorithms, Multi-Agent Systems, Evolutionary Computation.

EDUCATION

Ph.D. in Information Technology: 2010, University of North Carolina at Charlotte; Dissertation committee: M. Hadzikadic (chair), M. Khouja, Z. Ras, J. Whitmeyer, X. Wu. Title: *Complex Adaptive Systems and the Threshold Effect: Towards a General Tool for Studying Dynamic Phenomena Across Diverse Domains.**

Certificate in Cognitive Science: 2010, University of North Carolina at Charlotte.

M.S. in Computer Science: 2006, University of North Carolina at Charlotte.

B.S. in Business Administration: 1993, Presbyterian College; *minor*: English.

Study Abroad: 1990, Beijing Foreign Language Normal College.

PROFESSIONAL EXPERIENCE

Assistant Research Professor: Department of Software and Information Systems, College of Computing and Informatics, UNC Charlotte; April, 2010 to *present*.
Responsibilities: Working in conjunction with UNC Charlotte's Complex Systems Institute, responsibilities include: further development for a CAS general tool; research in applying the general tool to novel domains; grant development in support of research in, and teaching of, general CAS dynamics and applications; and dissemination of key results through publications and professional presentations.

Teaching Assistant: Database Systems (Fall), Data Structures (Spring): Department of Computer Science, UNC Charlotte; Fall, 2008 to Spring, 2009.
Responsibilities: Grading and evaluations for homework assignments and exams; contributing problem sets for exams; meeting with students in a supporting role to the instructor for answering questions and giving additional explanations of key concepts; conducting study sessions and tutorials.

Research Assistant: DARPA ACSES Project: Department of Software and Information Systems, UNC Charlotte; Fall, 2007 to Fall, 2008.
Responsibilities: Implementation and development of an Agent-based Model of Afghanistan, used as a test-bed for social science theories, as part of a one-year, multi-disciplinary and multi-institutional DARPA project aimed at advancing the state of the art for computational social science; took a leading role in generating technical reports and presentations on the theory, scope, and detailed analysis of UNC Charlotte's contribution to the project; worked on a team with over 25 researchers across four different institutions.

Teaching Assistant: Computer Logic and Design: Department of Computer Science, UNC Charlotte; Fall, 2006 to Spring, 2007.

GK-12 Fellow, Computer Science: Center for Mathematics, Science, and Technology Education, College of Education, UNC Charlotte, NSF grant #05-553; Fall, 2005 to Spring, 2006.

SERVICE

Co-Chair: AAAI Fall Symposium: Complex Adaptive Systems: Resilience, Robustness, and Evolvability. November, 2010.
Second international symposium on CAS, in conjunction with the Association for the Advancement of Artificial Intelligence (AAAI), in Arlington, VA. As co-chair, responsible for recruiting organizers, publicity, management of symposium programming, and developing external funding to support travel, invited speakers, and student participants. Supported by NSF Grant #1952901.

Co-Chair: AAAI Fall Symposium: CAS and the Threshold Effect: Views from the Natural and Social Sciences. November, 2009.

Spearheaded the creation, programming, organizer recruitment, and publicity for an international symposium, held in conjunction with the Association for the Advancement of Artificial Intelligence (AAAI); in Arlington, VA. Supported by NSF Grant #0948424.

President, CCI Grads. 2007 to 2009.
Representing the graduate students of the College of Computing and Informatics, and serving as a senator on the Graduate and Professional Student Government.

Other service projects include: AAAI Student Volunteer, Graduate Recruitment Committee, Dean's Comprehensive 5-year Review Committee, Adapt-a-Highway, ScienceFIRST Executive Committee, Canine Companions for Independence, volunteer fundraising at Charlotte Motor Speedway.

SELECTED PUBLICATIONS

Carmichael, T., Hadzikadic, M., Gajic, O.: "Pilot Study: Agent-based Exploration of Complex Data in a Hospital Environment," in Agents and Data Mining Interaction: Lecture Notes in Computer Science, Vol. 5980/2010, 16-26, Springer, 2010.

Hadzikadic, M., **Carmichael, T.**, Curtin, C.: "Complex Adaptive Systems and Game Theory: An Unlikely Union," in *Complexity* (Wiley-Blackwell, 2010).

Azevedo, R., Bench-Capon, T., Biswas, G., **Carmichael, T.**, Green, N., Hadzikadic, M., Koyejo, O., Kurup, U., Parsons, S., Pirrone, R., Prakken, H., Samsonovich, A., Scott, D., Souvenir, R.: Reports on the AAAI 2009 Fall Symposia. *AI Magazine* 31 (1): 88-94 (2010)

Carmichael, T., Hadzikadic, M., Dréau, D., Whitmeyer, J.: "Towards a General Tool for Studying Threshold Effects Across Diverse Domains," in Advances in Information and Intelligent Systems, Ras, Z., Ribarsky, W., Eds. (Springer, New York, 2009).

Dréau, D., **Carmichael T.**, Hadzikadic M.: "Modeling of Solid Tumor Progression Using a Complex Adaptive System Approach," in FS-09-03, pp 33-38, AAAI Press, 2009.

Dréau, D., Stanimirov, D., **Carmichael T.**, Hadzikadic M.: "An Agent-based Model of Solid Tumor Progression," in Proceedings of the 1st International Conference on Bioinformatics and Computational Biology, New Orleans, LA.; April, 2009.

Whitmeyer, J., **Carmichael, T.**, Eichelberger, C., Hadzikadic, M., Khouja, M., Saric, A., Sun, M.: "A Computer Simulation Laboratory for Social Theories," Proceedings of the 2008 IEEE/WIC/ACM International Conference on Intelligence Agent Technology, Sydney, Australia; December, 2008.

Ganguly, A., Whitmeyer, J., Omitaomu, O., Hadzikadic, M., Gilman, P., Brecke, P., Khouja, M., Fernandez, S., Eichelberger, C., McLean, A., Yu, J., Middleton, E., **Carmichael, T.**, Saric, A. and Sun, M.: "Towards a characterization and systematic evaluation framework for theories and models of human, societal, behavioral, and cultural processes," ORNL/TM-2008/062, Oak Ridge National Laboratory, 2008.

Fernandez, S., Brecke, P., **Carmichael, T.**, Eichelberger, C., Ganguly, A., Hadzikadic, M., Jiao, Y., Khouja, M., McLean, A., Middleton, E., Omitaomu, O., Saric, A., Sun, M., Whitmeyer, J., Gilman, P., O'Maonaigh, H.: "Actionable Capability for Social and Economic Systems (ACSES)," ORNL/TM-2008/088, Oak Ridge National Laboratory, 2008.

Carmichael, T., Stamper, J.: "A Complex Adaptive System Approach to Predictive Data Insertion for Missing Student Data;" Proceedings of the International Conference on Interactive Computer-aided Blended Learning, Florianopolis, Brazil; May, 2007.

RESEARCH GRANTS, AWARDS, AND FUNDING

*UNC Charlotte Graduate Dean's Distinguished Dissertation Award: June, 2010.
NSF Grant #1952901 (Co-PI): $15,000; 2010-2011.
NSF Grant #0948424 (Co-PI): $48,060; 2009-2010.
Professional Development and Travel Grants: $10,200; 2008-2010.
Graduate Assistantship Support Plan: $14,500; Tuition scholarship 2005-09.
Alpha Sigma Phi Kleinoeder Graduate Scholar Award: $1000; 2005-06.
NSF GK-12 Fellowship: program #05-553; $37,000; 2005-06.