Adam Campbell

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Software Engineer at Facebook
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Brief Biography

Adam Campbell currently works at Facebook and received both his Bachelor's and Master's degrees at UCF in 2004 and 2006, respectively. He has researched and worked on projects related to Evolutionary Computation, social interactions amongst autonomous agents, and complex systems theory. He has been a member of UCF's programming team from 2002 to 2006, and competed in the Association for Computing Machinery's International Collegiate Programming Contest in Shanghai, China in 2005 and in San Antonio, Texas in 2006. He helped organize meetings for UCF's monthly AI-Forum meetings and attended the Santa Fe Institute's Complex Systems Summer School in the Summer of 2008.

Education

M.S. Computer Science, University of Central Florida, May 2006, *GPA: 3.80*

B.S. Computer Science, University of Central Florida, May 2004, *GPA: 3.38*

Employment

Facebook   Palo Alto, CA
Software Engineer   January 2011 – Present
Works on the search team.

Orlando Utilities Commission   Orlando, FL
Programmer   Fall 2001 – Fall 2004
Developed the Application Systems web portal. The portal allows members of other departments to request jobs from Information Technology, keeps track of the status of the current tasks, and allows for the automated creation of time sheets based on the recorded amount of time spent on each task.

Teaching Experience

Teaching Assistant, Introduction to Computer Science, UCF, Fall 2004 and Spring 2005

Teaching Assistant, Computer Science III, UCF, Summer 2005 and Spring 2006

Teaching Assistant, AI for Game Programming, UCF, Spring 2008

Teaching Assistant, Computer Science I, UCF, Fall 2008

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Research Experience

Research Assistant   Fall '05, Summer '06–Fall '07, Summer '09–Fall
'10
Annie S. Wu   University of Central Florida
- Examined the role that behavioral diversity has on the ability of a multi-agent team to self-organize
- Developed a sensor network simulator for experimenting with the control strategies of sensor networks
- Used both theoretical and empirical studies to examine the effects of synchroneity on the dynamics of emergent multi-agent systems
- Investigated a communication-less approach to task allocation when agents are unaware of their teammates' capabilities and the task distribution in their environment
- Compared task allocation procedures when agents are not aware of their own capabilities
- Used a genetic algorithm to evolve the relative weights of a force-based controller for a team of agents attempting to discover and monitor a set of areas of interest
- Explored how social structures affect the ability of a group of autonomous agents to organize themselves when completing maneuvering tasks

Software Projects

Jimmy Secretan, Nicholas Beato, David B. D'Ambrosio, Adelein Rodriguez, Adam Campbell and Kenneth O. Stanley (2007): `Picbreeder`, Assisted in the design and development of the Java-based genetic art applet. http://www.picbreeder.org

`Sensor/emitter simulator`, Java-based simulator for experimenting with the control strategies of sensor networks. http://www.cs.ucf.edu/~acampbel/projects/sensor_emitter_sum2009

Publications

Adam Campbell, Cortney Riggs, and Annie S. Wu. On the impact of variation on self-organizing systems. In *Proceedings of the 5th International Conference on Self-Adaptive and Self-Organizing Systems*, pp119-128, Ann Arbor, Michigan, October 3-7, 2011.

Jimmy Secretan, Nicholas Beato, David B. D'Ambrosio, Adelein Rodriguez, Adam Campbell, Jeremiah T. Folsom-Kovarik, and Kenneth O. Stanley. Picbreeder: A Case Study in Collaborative Evolutionary Exploration of Design Space. In *Evolutionary Computation Journal, Vol. 19(3)*, pp373-403, 2011.

Adam Campbell and Annie S. Wu. Multi-Agent Role Allocation: Issues, Approaches, and Multiple Perspectives. In *Journal of Autonomous Agents and Multi-Agent Systems, Vol. 22*, pp317-355, 2011.

Adam Campbell and Annie S. Wu. On the Significance of Synchroneity in Emergent Systems. In *Proceedings of the 8th International Conference on Autonomous Agents and Multiagent Systems*, pp449-456. Budapest, Hungary, May 10-15, 2009.
Acceptance rate: 22%
Nominated for the Pragnesh Jay Modi Best Student Paper Award

Adam Campbell, Annie S. Wu, and Randall Shumaker. Multi-Agent Task Allocation: Learning When to Say No. In *Proceedings of the Genetic and Evolutionary Computation Conference*, pp201-208. Atlanta, Georgia, July 12-16, 2008.

Jimmy Secretan, Nicholas Beato, David B. D'Ambrosio, Adelein Rodriguez, Adam Campbell and Kenneth O. Stanley. Picbreeder: Evolving Pictures Collaboratively Online. In *Proceedings of the Computer Human Interaction Conference (CHI 2008)*, pp1759-1768. New York, NY: ACM, 2008.

Jimmy Secretan, Nicholas Beato, David B. D'Ambrosio, Adelein Rodriguez, Adam Campbell and Kenneth O. Stanley. Picbreeder: Collaborative Interactive Evolution of Images. In *Leonardo (Transactions Section), Vol. 41, No. 1*, pp98-99, 2007.

Adam Campbell and Annie S. Wu. Learning and Exploiting Knowledge in Multi-Agent Task Allocation Problems. In *Proc. of the Evolutionary Comp. and Multi-Agent Systems and Simulation (ECoMASS) Workshop - GECCO 2007*, pp2637-2642. London, England, July 7-11, 2007.

Adam Campbell, Annie S. Wu, Keith Garfield, Randall Shumaker, Sean Luke, and Kenneth A. De Jong. Empirical study on the effects of synthetic social structures on teams of autonomous vehicles. In *Proceedings of IEEE International Conference on Networking, Sensing, and Control*, pp440-445. Fort Lauderdale, FL, April 23-25, 2006.

Keith Garfield, Annie Wu, Mehmet Onal, Britt Crawford, Adam Campbell, and Randall Shumaker. The effectiveness of transferring multi-agent behaviors from a learning environment in the presence of synthetic social features. In *Proceedings of ASME International Mechanical Engineering Congress and Exposition*, pp1011-1017. Orlando, FL, November 5-11, 2005.

Service

Co-moderator of the Evolutionary Computation Mail Digest (EC-Digest), May 2008–Fall 2012

Organizing member of UCF's AI-Forum, Fall 2007–Spring 2009

Honors and Awards

Nominated for the Pragnesh Jay Modi Best Student Paper Award at AAMAS, 2009

Attended the Santa Fe Institute's Complex Systems Summer School in Santa Fe, New Mexico, 2008

Competed in the ACM International Collegiate Programming Contest in San Antonio, Texas, 2006

Competed in the ACM International Collegiate Programming Contest in Shanghai, China, 2005

Second place honors in the ACM Southeast, USA Programming Contest, 2004 and 2005

First place in the Software Competition at IEEE SoutheastCon, 2004

Honorable mention in the ACM Southeast, USA Programming Contest, 2002 and 2003

Bright Futures Scholarship, 2000-2004