

Cameron Johnson, Ph. D.

Software Engineer

L-3 Mission Integration Division

Degrees Held

- Bachelor of Science in Physics (May 2004)
- Master of Science in Physics (Dec. 2006)
- Master of Science in Computer Engineering (Dec. 2008)
- Ph.D. in Computer Engineering (Dec. 2011)

Dissertation: Spiking Neural Networks and Their Applications

Professional Experience

- Graduate Research Assistant (January 2008-December 2011)
- Internship at National Information Systems Cooperative (June-August 2010)
- Post-Doctoral Researcher with the Missouri S&T Applied Computational Intelligence Laboratory (January-May 2012)
- Software Engineer at L-3 Communications MID (June 2012 to Present)
 - Program Manager at L-3 from June 2015 to Dec 2015
- Adjunct Professor of Data Mining Algorithms at Texas A&M in Commerce from Jan 2015 to present

Interests

Physics, Computational Intelligence, and problem-solving. A particular interest is in applying computational intelligence concepts to problem solving and resource optimization. Developing systems to intuitively solve hard problems and recognize patterns in difficult and noisy environments.

Offices and Honors

- US Department of Education GAANN Fellow – 2008 to 2011
- Teaching Assistant in the Missouri S&T Electrical and Computer Engineering Department, August 2009 to May 2011
- Research Scholar in the Real-Time Power and Intelligent Systems Laboratory, August 2008 to Dec. 2011
- Graduate Research Assistant, Intelligent Systems Center, August 2009 to May 2012
- Chapter Chair of the Missouri S&T College Republicans, September 2009 to Spring 2010

Peer-Reviewed Conference and Journal Publications

- Hardware Implementations of Swarming Intelligence (Sept. 2008)
- Online Identification of Generator Dynamics in a Multimachine Power System (June 2009)
- Comparison of a Spiking Neural Network and an MLP for Robust Identification of Generator Dynamics in a Multimachine Power System (July-Aug. 2009)
- Encoding Real Values into Polychronous Spiking Networks (July 2010)
- Function Reproduction with Polychronous Spiking Networks (April 2011)
- A Reversibility Analysis of Encoding Methods for Spiking Neural Networks (July-Aug. 2011)

Professional Presentations

- “Painting” Signal State Space for LVQ Classification of CWPSK, presented to the 2013 L-3 Tech Exchange
- Co-wrote the Mission Management System Mobile Demo briefing, presented to the 2014 L-3 Tech Exchange by Todd Stibor

Johnson, C.; Venayagamoorthy, G. K.; Palangpour, P.; “Hardware Implementations of Swarming Intelligence – A Survey.” *IEEE Swarm Intelligence Symposium (SIS 2008)*, Sept. 21-23, 2008.

Johnson, C.; Venayagamoorthy, G. K.; Mitra, P.; “Online Identification of Generator Dynamics in a Multimachine Power System with a Spiking Neural Network.” *International Joint Conference on Neural Networks (IJCNN 2009)*, June 14-19, pp. 1450-1455.

Johnson, C.; Venayagamoorthy, G. K.; Mitra, P.; “Comparison of a Spiking Neural Network and an MLP for Robust Identification of Generator Dynamics in a Multimachine Power System.” *Neural Networks*, Vol. 22, Issues 5-6, July-August 2009, pp. 833-841.

Johnson, C.; Venayagamoorthy, G. K.; “Encoding Real Values into Polychronous Spiking Networks.” *International Joint Conference on Neural Networks (IJCNN 2010)*, July 18-23, pp. 1-7.

Johnson, C.; Venayagamoorthy, G. K.; “Function Reproduction With Polychronous Spiking Networks.” *Proceedings of the 5th Annual ISC Research Symposium (ISCRS 2011)*, April 7, 2011, pp. 1-6.

Johnson, C.; Roychowdhury, S.; Venayagamoorthy, G. K.; “A Reversibility Analysis of Encoding Methods for Spiking Neural Networks.” *International Joint Conference on Neural Networks (IJCNN 2011)*, July 31-August 5, 2011, pp. 1802-1809.