Jason Scott Hiebel

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Experienced artificial intelligence researcher and computer science educator seeking to tackle a breadth of diverse and challenging problems in mathematics and computing.

Education

Doctor of Philosophy in Computer Science   2019
Michigan Technological University

Dissertation	Contextual Bandit Modeling for Dynamic Runtime Control in Computer Systems
Advisor	Drs. Laura E. Brown, Zhenlin Wang

Master of Science in Computer Science   2012
Michigan Technological University

Bachelor of Science in Mathematics   2011
Michigan Technological University

Bachelor of Science in Computer Science   2010
Michigan Technological University

Research Experience

Graduate Research Assistant   Dec 2017
Department of Computer Science, Michigan Technological University   May 2015

Research Intern   Aug 2014
Michigan Tech Research Institute, Michigan Technological University   May 2014

– Implemented image processing algorithms of interest in MATLAB, with a focus on performance optimization.
– Aided the relaxation of theoretical assumptions in 3D point shape and size reconstruction from bistatic radar system data.

Research Intern   Aug 2013
National Security Agency, United States Government   May 2013

– Developed statistical techniques for error-tolerant detection, extraction, and information retrieval from images.
– Crafted introductory artificial intelligence and machine learning tutorials for Support Vector Machines, Random Forests, Artificial Neural Networks, and Restricted Boltzmann Machines / Deep Belief Networks.
– Correlated recent artificial intelligence publications with supporting materials for the internal dissemination of state-of-the-art external tools and techniques.

Research Intern   Aug 2012
Lincoln Laboratory, Massachusetts Institute of Technology   May 2012

– Assisted in the preparation of literature review material for managing wireless ad-hoc networks.
– Developed game-theoretic models and consulted on the development of bandit-based models for blue-vs-red jamming/anti-jamming scenarios in cognitive tactical networks.

Undergraduate Research Intern   Dec 2010
Robotics, Evolution, Adaptation, and Learning Lab, University of Oklahoma   May 2010

– Explored the role of "nurturing" in evolutionary robotic systems (inclusion of embodied agents or memetic behavior from previous generations in the evolutionary system).
– Prepared foundational literature review material for lab members pursuing evolutionary robotics.

Publications

Articles

2019 *Jason Hiebel*, Laura E. Brown, and Zhenlin Wang. Machine Learning for Fine-Grained Hardware Prefetcher Control. In *Proceedings of the 48th International Conference on Parallel Processing*, 2019

2018 *Jason Hiebel*, Laura E. Brown, and Zhenlin Wang. Constructing Dynamic Policies for Paging Mode Selection. In *Proceedings of the 47th International Conference on Parallel Processing*, 2018

Abstracts, Posters

2018 *Jason Hiebel*, Laura E. Brown, and Zhenlin Wang. Utilization of Random Profiling for System Modeling and Dynamic Configuration. In *Proceedings of the 47th International Conference on Parallel Processing, Ph.D. Forum*, 2018

2012 Laura E. Brown, John Earnest, and *Jason Hiebel*. Vitro—A Simulation and Visualization Framework to Engage Learning: Reversi Model Assignment, Model AI Assignments 2012. In *Proceedings of EAAI-12: 3rd Symposium on Educational Advances in Artificial Intelligence*, 2012

Technical Reports

2012 *Jason Hiebel*. A Jamming/Anti-Jamming Game for Competing Cognitive Tactical Networks. Memo 63MA-12-015, MIT Lincoln Laboratory, 2012. *Acknowledged by Gwon et al. 2013 (IEEE Conference on Communications and Network Security)*

Teaching Experience

Instructor   June 2020
Department of Computer Science, Michigan Technological University   *Jan 2020*

Summer 2020 CS3331, Concurrent Computing

Spring 2020 CS3331, Concurrent Computing
     CS4461, Computer Networks
     CS4811, Artificial Intelligence

Graduate Instructor   Dec 2019
Department of Computer Science, Michigan Technological University

Fall 2019 CS4811, Artificial Intelligence

Spring 2019 CS4811, Artificial Intelligence

Fall 2014 CS1090, Competitive Programming (Special Topic)
    CS1131, Accelerated Introduction to Programming

Fall 2013 CS1131, Accelerated Introduction to Programming

Spring 2013 CS1121, Introduction to Programming II

Fall 2012 CS1090, Competitive Programming (Special Topic)

Graduate Teaching Assistant   Dec 2018
Department of Computer Science, Michigan Technological University

Fall 2018 CS4121, Programming Languages

Spring 2018 CS4121, Programming Languages

Fall 2012 CS1121, Introduction to Programming I

Spring 2012 CS1122, Introduction to Programming II

Fall 2011 CS1121, Introduction to Programming I

Spring 2011 CS4811, Artificial Intelligence

Fall 2010 CS1121, Introduction to Programming I

Course Work

Graduate Level

Computer Science Artificial Intelligence, Computation Theory, Algorithms, Rendering and Animation, Data Visualization, Compiler Optimization

Mathematics Numerical Partial Differential Equations, Numerical Optimization

Computer Science	Operating Systems, Parallel Programming, Networking, Compiler Construction, Computer Architecture, Programming Languages
Mathematics	Number Theory, Linear Algebra, Graph Algorithms, Differential Geometry, Real Analysis, Complex Analysis, Abstract Algebra

Service

Gin Rummy EAAI Undergraduate Research Challenge Mentor — Present
Department of Computer Science, Michigan Technological University — *Feb 2020*

Autonomy and Robotics Mentor — Present
Mining Innovations Enterprise, Michigan Technological University — *Jan 2020*

Winter Wonderhack Hackathon Judge — Feb 2020
Michigan Technological University

BonzAI Brawl Programming Competition Organizing Committee Member — May 2016
Department of Computer Science, Michigan Technological University — *Aug 2014*

International Collegiate Programming Contest Judge — 2015, 2017
North Central North American Regional Competition—Upper Michigan Section

Competitive Programming Coach — Aug 2015
Department of Computer Science, Michigan Technological University — *Aug 2012*