Blake Warren Wulfe

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Research Interests

Reinforcement Learning, Natural Language Processing, Artificial Intelligence

Education

Stanford University   August 2015 - Present
M.S. Computer Science, Specialization in Artificial Intelligence
GPA: **3.93 / 4.0**

Vanderbilt University   August 2010 - May 2014
B.S Computer Science, Cum Laude & Honors
Minors in Mathematics & Engineering Management
GPA: **3.77 / 4.0**

Research Experience

Stanford Intelligent Systems Lab, Stanford University   April 2016 - Present
Deep Reinforcement Learning of Collision Avoidance Policies
⋄ Developed a deep reinforcement learning system that solves for optimal actions 2x faster than the baseline dynamic programming method.
⋄ Built a Boost.Python interface to an existing, high-fidelity aircraft encounter model. (C++)
⋄ Implemented and compared a variety of deep reinforcement learning algorithms. (Python)
⋄ Designed and evaluated a set of novel sampling methods to speed learning.

Intelligent Agent Action Coordination
⋄ Implemented a novel method for coordinating UAV actions that reduces collisions in dangerous encounters between 25%-75%.
⋄ Developed an aircraft encounter simulation framework for evaluating agent policies. (Julia)
⋄ Designed and ran experiments in order to test the effectiveness of the proposed method.
⋄ Published results as second author in Digital Avionics Systems Conference (DASC) 2016.

Human-Machine Teaming Lab, Vanderbilt University   May 2013 - August 2013
3D Map Generation of Archaeological Sites
⋄ Assisted in operating, repairing, and programming autonomous UAVs.
⋄ Gathered images for conversion to 3D mappings during research trip to archaeological sites in Peru.

Professional Experience

Accenture, Austin, TX   August 2014 - August 2015
Business and Systems Integration Analyst
⋄ Implemented software providing a natural language interface to users. (Java)
⋄ Performed client-facing requirement analysis.

Invivolink, Nashville, TN   May 2012 - August 2012
Software Engineering Intern
⋄ Implemented medical barcode parsing software. (C#)

Teaching

Program Design and Data Structures, Vanderbilt University   January 2013 - May 2013
Teaching Assistant

Community Service

Dance Marathon, Vanderbilt University   August 2012 - April 2013
Logistics & Finance Board Member
⋄ Organized logistics for event that raised $130,000 for Vanderbilt Children's Hospital

Computer & Technical Skills

Programming Languages: Proficient in Python, experience with Julia, C++, C, Matlab
Software: Deep learning frameworks (TensorFlow, Theano)