Jared G. Wood

CONTACT INFORMATION
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BACKGROUND

Experience researching and developing algorithms for perception from camera and high-resolution sonar, image recognition/detection and tracking, localization, path planning, and supervised/reinforcement learning. Experience leading small teams.

EDUCATION

University of California–Berkeley

Ph.D. Engineering **Dec 2011**

- Fields: Artificial intelligence, machine learning, control systems.
- Research: Image recognition/detection, target tracking, sensor fusion.

M.S. Engineering **May 2008**

- Fields: Control systems, signal processing.
- Research: Distributed wireless sensor networks.

University of Utah

B.S. Mechanical Engineering **May 2006**

- Minor: Mathematics.
- *Cum Laude*, with Honors in Engineering.

WORK EXPERIENCE

Underwater Autonomous Vehicle Startup
Oakland, California USA

Research & Development **Feb 2014 to current**

- Implemented perception algorithms to map seafloor and detect obstacles.
- Implemented in C++, Python.

Automa Aurora
Berkeley, California USA

Algorithm/Software Development **Jun 2012 to Oct 2013**

- Started company to provide vehicle routing cloud service.
- Architected and built entire system that included core distributed optimization algorithm, network communication, mobile app development.
- Implemented in Java, Objective-C, Python.

United Technologies Research Center at Berkeley

Research and Development **Sep 2011 to Apr 2012**

- Implemented particle filter and sensor likelihood functions for target tracking from autonomous helicopter.
- Implemented in C++.

Center for Collaborative Control of Unmanned Vehicles
Vehicle Dynamics Lab
University of California–Berkeley

Research & Development **Aug 2007 to Sep 2011**

- Implemented perception, target track prediction, and path planning for autonomous aircraft to detect and track pedestrians on the ground.
- Image recognition, object detection, probabilistic tracking, model-predictive control.
- Implemented in C++. Tested in several experiments on-board real aircraft.

Lawrence-Berkeley National Lab
University of California–Berkeley

Research & Development **May 2006 to Aug 2007**

- Implemented software for wireless sensor network high-frequency low-power sampling and communication.
- Implemented in C, Java.

PUBLICATIONS

Wood, J.G., and J.K. Hedrick. Partition Learning for Multiagent Planning. *Journal of Robotics*. Volume 2012, Article ID 590479. 2012.

Wood, J.G. Time Evolving Space Partitioning for Search and Tracking of an Unknown Number of Targets by a Team of Heterogeneous Autonomous Agents. Dissertation, University of California, Berkeley. 2011.

Wood, J.G., and J.K. Hedrick. Multi-agent Path Planning for an Unknown Number of Targets over Dynamic Space Partitions. In: *Proceedings of the 50th IEEE Conference on Decision and Control and European Control Conference (CDC-ECC 2011)*, December 12–15, 2011.

Wood, J.G., and J.K. Hedrick. Space Partitioning and Classification for Multi-target Search and Tracking by Heterogeneous Unmanned Aerial System Teams. In: *Proceedings of the 2011 AIAA Infotech@Aerospace Conference*, March 28, 2011.

Wood, J.G., B. Kehoe, and J.K. Hedrick. Target Estimate PDF-based Optimal Path Planning Algorithm with Application to UAV Systems. In: *Proceedings of the 2010 ASME Dynamic Systems and Control Conference*, September 13, 2010.

Wood, J.G. Reliable Wireless Sensor Network for Data Acquisition. Thesis, University of California, Berkeley. 2008.

Wood, J.G., and S. Mascaro. Human Finger Muscle-Tendon System for Robotics. In: *Utah Undergraduate Research Journal*, 6, pp. 75, 112. 2006.

Garvey, J., B. Kehoe, B. Basso, M. Godwin, J. Wood, J. Love, S.-Y. Liu, Z. Kim, S. Jackson, Y. Fallah, T. Fu, R. Sengupta, and J.K. Hedrick. An Autonomous Unmanned Aerial Vehicle System for Sensing and Tracking. In: *Proceedings of the 2011 AIAA Infotech@Aerospace Conference*, March 28, 2011.

Sengupta, R., J. Connors, B. Kehoe, Z. Kim, T. Kuhn, and J. Wood. Final Report – Autonomous Search and Rescue with ScanEagle. Prepared for Evergreen Unmanned Systems and Shell International Exploration and Production Inc., September, 2010.