Joshua R. Bhagat Smith

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Education

Oregon State University Corvallis, OR
PhD Robotics and AI 2020-2024

University of Arkansas Fayetteville, AR
MS Computer Science 2015-2017

University of Arkansas Fayetteville, AR
BS Computer Engineering 2011-2015

Professional Experience

AI & ML Lead, Peraton 2024-

- Robotics lead for the Autonomy IRAD team. Our team investigated interoperability of heterogeneous multi-robot systems with a emphasis on marine autonomy platforms and autonomous logistics applications.

Graduate Research Assistant, Oregon State University 2020-2024

- Research focusing on robust and flexible human-robot collaboration. Currently researching wearable computing and Bayesian meta-learning for modeling the dynamics of human cognitive states.
- Led the technical efforts for a team of five researchers in programming autonomous robots, developing real-time physiological signal processing software, and conducting human-subject studies.

Senior Software Engineer, HERE Technologies 2017-2020

- Highly Autonomous Driving group. Our team built an automated, high-accuracy map to enable autonomous driving functionality from large scale vehicle sensor systems.
- Assisted in designing machine learning and statistical models of vehicle sensor data.

Skills

Technical Skills: Python | C++ | Pytorch | ROS | CUDA | Pyro | Machine Learning | Statistical Modeling | Planning Algorithms | Reinforcement Learning | Human Factors | Experimental Design

Soft Skills: Effective Communication | Cross-functional Collaboration | Technical Writing | Critical Thinking | Time Management | Research Presentation | Mentoring | Leadership

Selected Publications

J. Bhagat Smith, J.A. Adams. “Adaptive Workload Modeling for Unknown Tasks”, ACM Transactions on Human-Robot Interaction, 2024. (In Preparation).

J. Bhagat Smith, J.A. Adams. “Workload Estimation for Unknown Tasks: A Survey of Machine Learning Under Distribution Shift”, in Journal of Cognitive Engineering and Decision Making, 2024. (In Review).

J. Bhagat Smith, P. Baskaran, J.A. Adams. “Improving Transparency in Human-Collective Visualizations”, *IEEE International Symposium on Robot and Human Interactive Communication*, Pasadena, CA, USA, pp. 1-7 2024.

F. Aderinto*, **J. Bhagat Smith***, M.R. Giolando, P. Baskaran, J.A. Adams, ‘Improving Human-Robot Team Transparency with Eye-tracking based Situation Awareness Assessmen‘,” in *Companion of the ACM/IEEE International Conference on Human-Robot Interaction*, Late Breaking Report, USA, 2024 **[Best LBR Nominee]**