Jayson Boubin

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Career Objective

To perform high impact research in the areas of Robotics, Automation, and Computer Systems

Education

- PhD Student in Computer Science, The Ohio State University, August 2017-Present
- Bachelors of Science in Computer Science, Miami University, May 2017

Research Experience

- Graduate student working in Dr. Christopher Stewart's Rerout Lab at The Ohio State University. I am Currently working on state of the art robotics and autonomous unmanned aerial vehicle (AUAV) research. I am developing self aware AUAVs for highly variable real world applications such as agriculture. These UAVs leverage consumer grade hardware to implement advanced computer vision, localization, and detection algorithms, and are highly programmable to allow for a full range of autonomy tasks.
- Fellow at the Air Force Institute of Technology performing novel research with mentors Maj. Christina Rusnock, Ph.D. (June 2014 - May 2017) and Dr. Michael Miller (May 2017-August 2017). I developed software used for research for UAVs, cyber security, neuroscience, and automation. I conducted my own research into these topics while preparing lecture materials for graduate level courses, writing academic papers, posters, and presentations, and collaborated with excellent researchers on popular research problems.
- High Performance Computing research lab assistant working through the Miami University FYRE program under mentor Dr. Dhananjai Rao (Sep. 2013-May 2014). Worked on algorithm optimization on a multiple node Linux computer cluster using C++.

Presentations

- Boubin, J,G, Bondurant, P,M, Rao D,M (2014, April) *Dynamic Process Migration in Agent Based Simulation.*
  Poster presented at the Undergraduate Research Forum, Miami University, Oxford, Ohio.
- Boubin, J.G, Rusnock, C,F (2014,July) *Modeling Cognitive Workload and Fatigue for Defensive Cyber Security Operations.* Poster presented at the AFIT Summer Intern Poster Session, Air Force Institute of Technology, Wright Patterson Air Force Base, Ohio.
- Boubin, J,G Rusnock, C,F(2015,July) *Eliciting an Algorithm to Replicate Human Trust In Automation In The Domain of Compliance,* Poster presented at the AFIT Summer Intern Poster Session, Air Force Institute of Technology, Wright Patterson Air Force Base, Ohio.
- Boubin, J,G Rusnock, C,F, Miller, M(2015 November) *Simulating Compliance and Reliance,* Talk presented at the Cincinnati-Dayton INFORMS Technical Symposium, Wright State University, Ohio
- Boubin, J,G Rusnock, C,F, Miller, M(2015 November) *Eliciting an Algorithm to Replicate Human Trust In Automation In The Domain of Reliance,* Poster presented at the Dayton Engineering Sciences Symposium, Wright State University, Ohio
- Boubin, J,G Rusnock, C,F(May 2016) Quantifying and Evaluating Trust in Automated Systems, Talk presented at the ISERC 2016 conference, Anaheim, California. (Presented by Maj. Christina Rusnock, Ph.D.)
- J. Boubin, S. Zhang, V. Mandadapu and C. Stewart(Feb 2018), "Characterizing Computation in UAV Applications", 2018, The Ohio State University CSE Graduate Research Poster Expo, Columbus Ohio,

Awards and Honors

- Ohio State College of Engineering Graduate Fellowship, 2017-2018 academic year
- Honorable Mention, Ohio State CSE Graduate Research Poster Expo
- Best Student Paper, Human Performance Modeling, HFES 2017

Published Abstracts and Conference Papers

- J. Boubin, S. Zhang, V. Mandadapu and C. Stewart, "Poster Abstract: Characterizing Computational Workloads in UAV Applications," *2018*

IEEE/ACM Third International Conference on Internet-of-Things Design and Implementation (IoTDI), Orlando, FL, USA, 2018, pp. 275-276.

- Boubin, Jayson G., Christina F. Rusnock, and Jason M. Bindewald. "Quantifying Compliance and Reliance Trust Behaviors to Influence Trust in Human-Automation Teams." *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Vol. 61. No. 1. Sage CA: Los Angeles, CA: SAGE Publications, 2017.
- Rusnock, Christina F., et al. "The Role of Simulation in Designing Human-Automation Systems." *International Conference on Augmented Cognition*. Springer International Publishing, 2016.
- Jayson G. Boubin, Christina F. Rusock: Measuring Human Compliance and Reliance in Automated Systems. IIE 2016. (Abstract)

Professional Experience

Air Force Institute of Technology, Wright Patterson Air Force Base, OH United States

SOCHE Intern, May 2014 – December 2015

ORISE fellow, January 2016-August 2017

- Performed novel research in the fields of computer science, applied neuroscience and human factors. Worked with graduate students and faculty to generate conference and journal publications, presentations, and course materials

Miami University, Oxford Ohio

Teaching Assistant, Spring Semester 2017

- Led student help sessions and graded for CSE 381 “Systems 2” for Dr. Jianhui Yue.

Miami University, Oxford Ohio

Senior Capstone Project, August 2016-May 2017

- Created a profile module for an open source media repository called Dspace for the Miami University library system. The project is being used by the Miami University Scholarly Commons group, and will soon be added to DSpace as a whole.

Additional Skills

- Highly competent in Java, Python, and C++.
- Comfortable using C#, C, SQL.
- Experience using Linux, Vim, Bash, and Git
- High Performance software development experience using MPI, and OpenMp
- Statistical Analysis experience using R, Matlab and Minitab
- Experience with the DJI SDK, ArduPilot, MAVLink, and DroneKit
- Comfortable using OpenCV and Tensorflow
- Familiar with many more programming languages and tools