ALEXANDER LALEJINI

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EDUCATION

Mississippi State University *August 2011 - Present*
Degree: Computer Science
Expected Graduation: May 2015
GPA: 4.0/4.0

PUBLICATIONS

A. Lalejini, L. M. Hiatt, W. Lawson, G. J. Trafton. "Using Dynamic Cognitive Context to Improve Object Recognition." Submitted to the 2015 IEEE International Conference on Robotics and Automation. Seattle, WA. 26-30, May 2015. Submitted October 2014. Under Review.

A. Lalejini, *D. Duckworth*, *R. Sween*, C. L. Bethel, D. Carruth; "Evaluation of Supervisory Control Interfaces for Mobile Robot Integration with Tactical Teams," *2014 IEEE Workshop on Advanced Robotics and its Social Impacts (ARSO)*, 11-13 September, 2014.

RESEARCH EXPERIENCE

Laboratory for Autonomous Systems Research (LASR) May 2014 - July 2014
Naval Research Laboratory

- Mentors: Dr. Greg Trafton, Dr. Laura Hiatt
- I researched the use of dynamic cognitive context to improve a robot visual perception system. I explored different methods of combining cognitive context and computer vision. I used a biologically plausible object recognition model, Leabra Vision (LVis) to identify objects and identified ways in which dynamic cognitive context aids object recognition results.

Center for Advanced Vehicular Systems (CAVS) January 2014 - Present
Mississippi State University

- Mentors: Dr. Daniel Carruth, Dr. Cindy L. Bethel
- I work on the ITAR restricted Computational Research for Engineering and Science Ground Vehicles (CRES-GV) Virtual Testbed Environment Project at the Center for Advanced Vehicular Systems (CAVS). This project involves the implementation of software to integrate robotic platforms in a vehicle simulation software package using the open-source Robot Operating System (ROS).

Social, Therapeutic, & Robotic Systems (STaRS) Laboratory August 2013 - Present
Mississippi State University

- Mentor: Dr. Cindy L. Bethel
- I worked as the project co-lead for the Robot Intent and Control Project. This project sought to support the integration of an autonomous mobile platform into tactical teams; the project investigated different interfaces that enabled a robot to convey its intentions to nearby team members and allowed operators to exert supervisory control over the robot. I assisted in study design, interface implementation and evaluation, and data collection.

EMPLOYMENT

Naval Research Laboratory (NRL) May 2014 - July 2014
NREIP Intern *Washington, D.C.*

- Supervisor: Dr. Greg Trafton, Dr. Laura Hiatt
- Summer 2014 undergraduate research position at the Laboratory for Autonomous Systems Research

Mississippi State University Computer Science Department November 2013 - Present
Undergraduate Research Assistant *Mississippi State, MS*

- Supervisor: Dr. Cindy L. Bethel
- I work as an undergraduate research assistant in the STaRS lab.

Jet Propulsion Laboratory (JPL) Summer 2012
USRP Intern *Pasadena, CA*

- Supervisor: William R. Johnson
- I provided Earth Science software support; I developed a radiometer calibration application using Enthought Python. The application coordinated the automation of multiple calibration instruments via serial communication and provided the user with real-time data visualization from the calibration process.

Mississippi State University Physics Department Fall 2011 - Spring 2012
Undergraduate Research Assistant *Mississippi State, MS*

- Supervisor: Dr. Angelle Tanner
- I wrote various data analysis and image processing scripts primarily for data collected at the Palomar Observatory.

Naval Research Laboratory (NRL) Summers of 2011, 2010, 2009
Computer Clerk (2011), SEAP Intern (2010, 2009) *John C. Stennis Space Center, Mississippi*

- Supervisor: Dr. Bruce Lin
- I worked on a battlespace management interface written using the World Wind Java SDK. I also implemented a clustering algorithm for use in classifying sparse data points.

TECHNICAL SKILLS

Computer Languages	Python, C/C++, Java
Software Tools & Libraries	Robot Operating System (ROS), Enthought Python, Scipy, Numpy
Version Control	GIT
Robots	Kobuki TurtleBot 2, Dr. Robot Jaguar
Web	PHP, HTML/CSS, SQL
Operating Systems	Linux, Windows, Mac OS

AWARDS AND HONORS

- President's Scholar (Fall 2011 - Present)
- Shackouls Honors College
- Meritorious Award in Bagley Undergraduate Research Poster Competition (Poster title: Robot Control)
- Presenter at ARSO 2014
- Honorable Mention for Computing Research Association (CRA) 2015 Outstanding Undergraduate Researcher Award

SERVICE

SWAT Training Participant November 2013 - Present
Mississippi State University

I am a volunteer in monthly training exercises with the Starkville, MS Police Department SWAT team in coordination with the STaRS lab.

National SeaPerch Challenge Volunteer May 2014
Hattiesburg, MS

I was a poolside judge for the Heist Challenge.