

# ALEXANDER LALEJINI

49 Kirk Cauldy Drive ◇ Starkville, Mississippi 39759  
(228) · 342 · 8299 ◇ amlalejini@gmail.com ◇ lalejini.com

## EDUCATION

---

### Mississippi State University

*August 2011 - Present*

Degree: Computer Science

Expected Graduation: May 2015

GPA: 4.0/4.0

## PUBLICATIONS

---

**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**  
*Undergraduate Research Assistant*

November 2013 - Present  
*Mississippi State, MS*

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

**Jet Propulsion Laboratory (JPL)**  
*USRP Intern*

Summer 2012  
*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**  
*Undergraduate Research Assistant*

Fall 2011 - Spring 2012  
*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)**  
*Computer Clerk (2011), SEAP Intern (2010, 2009)*

Summers of 2011, 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

---

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