# Lucas Thompson

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## Skills

### *Overview*

- **Programming**
- **Linux**
- **Web Dev**
- **Robotics**
- **Machine Learning**
- **Deep Learning**
- **Data Analysis**
- **Android Dev**

### *Languages*

- **Python**
- **C++**
- **JavaScript**
- **Matlab**
- **SQL**
- **Java**
- **Android**
- **PHP**
- **BASH**
- **HTML**
- **CSS**

## Education

2015 - 2017 **PhD, Computational Science (Incomplete)** (GPA: 4.0)
University of Southern Mississippi

2014 - 2015 **MS, Computer Science** (GPA: 4.0)
University of Southern Mississippi

2011 - 2014 **BS, Computer Science,** *summa cum laude* (GPA: 4.0)
University of Southern Mississippi

2009 - 2011 **AA, Computer Science (Transferred)** (GPA: 4.0)
Co-Lin Community College

## Experience

Dec 2018 - May 2019 **Web Development and AI Research** Scouts Unlimited LLC

- Implemented an object detection algorithm into the website to later be used in image classification tasks.
- Participated in weekly strategy sessions to guide the direction of machine learning within the company.
- Set up initial website to be used as a demo for potential investors.
- Website included user authentication, user roles, a database for user content, an image upload system, searchable content, and administrative tools.

Jun 2014 - Aug 2017 **Graduate Research Assistant** University of Southern Mississippi

- Research in applying machine and reinforcement learning in pursuit of possible publications including data collection, visualizations, technical writing, and changes from the peer review process.
- Co-authored a new introductory robotics course with my professor. Duties included preparing course outlines, slides, example code, assignments, demonstrations, and co-instruction of the course.
- Set up robotic simulations using ROS and Gazebo for research.
- Used OpenCV in various robotic projects.
- Used Deep Q-learning neural networks in many projects.
- Created data sets from simulated robotic sensors to be used with various machine learning algorithms.

May 2013 - Aug 2013 **Undergraduate Research Assistant** University of Southern Mississippi

- Introduced to basic artificial intelligence algorithms.
- Group study and discussion of artificial intelligence publications.
- Implementation of robotic algorithms using a graphical simulator.
- Contributions towards a multi-robotic algorithm to be submitted for later publication.
- Collaborative effort with a team of peers to develop decision theoretic frameworks for multi-robotic systems.

2000-2009 **Welder, Metal Fabricator, Laborer** DAVCO, FKI Logistex, Various Companies

## Publications

B. Banerjee, S. Loscalzo, **L. Thompson** (2016), "Detection of Plan Deviation in Multi-Agent Systems", *AAAI 2016*, pp. 2445-2451

T. Neller, L. Brown, R. West, J. Heliotis, S Strout, I Bezkova, B. Banerjee, **L. Thompson** (2014), "Model AI Assignments 2014", *AAAI 2014*, pp. 3054-3056

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## Skills (Cont)

### *Libraries*

- **Jupyter** ●●●●○
- **Pandas** ●●●○○
- **Matplotlib** ●●●○○
- **Numpy** ●●●○○
- **SciKit-Learn** ●●○○○
- **Keras** ●●○○○
- **Open CV** ●●○○○

## Certificates

2014 **Machine Learning** Stanford via Coursera

2014 **Linear and Integer Programming** University of Colorado via Coursera

2018 **Deep Learning Workshop** Data Science Atlanta Conference 2018

2020 **Applied Data Science with Python Specialization** University of Michigan via Coursera

- Introduction to Data Science
- Applied Plotting, Charting, and Data Representation in Python
- Applied Text Mining in Python
- Applied Social Network Analysis in Python
- Applied Machine Learning in Python

2020 **Deep Learning Specialization** deeplearning.ai via Coursera

- Neural Networks and Deep Learning
- Improving Deep Neural Networks: Hyperparameter Tuning, Regulariztion, Optimization
- Structuring Machine Learning Projects
- Convolutional Neural Networks
- Sequence Models

## Accomplishments

Represented the University of Southern Mississippi at the Association for Advancement of Artificial Intelligence (AAAI) Conference 2016.

Participating member of the

Coordinated a 3D printing fundraiser to benefit the School of Computing Graduate Student Association. The event involved the sale of many 3D printed items including 3D prints of individuals created with Microsoft Kinect.

Awarded the ”Beal Family Scholarship” for the Computer Science student with the highest GPA at Co-Lin Community College.

Placed third in a school wide essay contest at Co-Lin Community College which was published in the schools yearly periodical.