Zachary D. **Jones**

University of Georgia · Graduate Assistant
150 Spring Court Apt. A15, Athens, GA, 30601
(606) 571-7846 | zach@zachjones.us | www.zachjones.us | zachdj | zachdj

Education

University of Georgia
Athens, GA

M.S. in Artificial Intelligence · 4.00 GPA
Aug 2017 - PRESENT

Marshall University
Huntington, West Virginia

B.S. in Applied Mathematics · B.S. in Computer Science · 4.00 GPA
Aug 2013 - May 2017

- Won MU Hackathon 2014
- Named Outstanding Junior in Applied Mathematics and in Computer Science
- Named Outstanding Senior in Applied Mathematics

Experience

UGA Institute of Artificial Intelligence
Athens, GA

Graduate Research Assistant
Aug 2017 - PRESENT

- Assisted in research project using machine learning to predict power output of a solar farm
- Developed materials for the Summer 2018 Data Mining course, including code samples and theoretical write-ups
- Maintained lab computers and configured remote login services

Strictly Business Computer Systems
Huntington, WV

Intern Software Engineer
Jun 2014 - Aug 2017

- Developed dependable, cross-platform software applications
- Designed, debugged, and maintained software to meet client requirements
- Worked in a team-based environment with tight deadlines and budgets

Auburn REU with Smart UAVs
Auburn, AL

Undergraduate Researcher
May 2016 - Jul 2016

- Independently researched existing autonomous navigation systems
- Worked to develop a “See and Avoid” system for autonomous UAVs
- Designed and implemented SAA computer vision system and cockpit simulator

DOW Chemical Company Research Grant
Huntington. WV

Undergraduate Researcher
May 2015 - May 2016

- Maintained and developed chemical spill simulation software with an intense mathematical core
- Wrote project summaries and funding proposals

Skills

Languages Python, Java, Javascript, C#, C++, C, PHP, SQL, Bash scripting
Technologies Anaconda Stack, PyTorch, OpenCV, Git, Google Cloud Platform, Apache Spark, ReactJS, VueJS, Node.js, JavaFX, OpenGL
Other Machine Learning, Deep Learning, Reinforcement Learning, Artificial Intelligence, Written/Oral Communication

Projects

Apollo: Machine Learning for Solar Radiation Prediction
UGA

https://github.com/zachdj/apollo
2017-Present

- Machine learning software to predict the solar radiation received at a solar farm in Athens, GA
- Capable of training, tuning, and testing a wide variety of models
- Generates human-readable and machine-readable predictions

Hasu: Reinforcement Learning for StarCraft II

Personal

`https://github.com/zachdj/hasu` *2018-PRESENT*

- Quality implementation of the A2C Reinforcement Learning algorithm using Python
- Trains artificial agents to play mini-games from the challenging SCII environment

Elizabeth: Scalable Malware Detection

UGA

`https://github.com/zachdj/elizabeth` *2018*

- Machine Learning software for the Microsoft Malware Classification Challenge
- Developed in a team of three over two weeks as a project in UGA's Data Science Practicum
- Achieved best-in-class accuracy

SPOTT: System for Painless Optical Tennis Tracking

Marshall University

`https://bitbucket.org/zachdj/tennis-tracker/` *2017*

- Computer vision system to automatically track shot locations during tennis matches
- Published work in COMPSAC 2018 journal

UAV See and Avoid

Auburn REU

`https://bitbucket.org/zachdj/see-and-avoid/` *2016*

- Computer vision "See and Avoid" system for autonomous UAVs
- Simulates single-camera cockpit view + flight dynamics
- Designed to autonomously detect obstacles and attempt an avoidance maneuver

Extracurricular Activity

Deep Learning @ UGA

Athens, GA

Student Committee *Jan 2018 - PRESENT*

- Helped plan meetings and schedule talks
- Contacted potential speakers for bi-monthly meetings
- `https://eds-uga.github.io/delug/`

Pi Mu Epsilon Mathematical Honor Society

Huntington, WV

Member *Aug 2015 - May 2017*

- Met weekly with other students to discuss challenging problems
- Attended Mathematical Conferences
- `http://pme-math.org/`

Publications

Conferences

2018 **Painless Tennis Tracking System**, Wook-Sung Yoo, Zach Jones, Henok Atsbaha, David Wingfield *IEEE COMPSAC*

2017 **An Unmanned Aircraft 'See and Avoid' Algorithm Development Platform Using OpenGL and OpenCV**, Zachary Jones, Andrew Morgan, Richard Chapman, Saad Biaz *CCSC*

Presentations

2018 **Deep Learning**, Special Topics Talk for Machine Learning course. `https://goo.gl/HAvQAb`. *UGA CSCI 8950*

2016 **UAV See & Avoid Presentation**, https://goo.gl/Hm2FF3 *Auburn*