

## Objective

Data scientist focused on research and applications in machine learning.

## Education

Bachelor of Science, Computer Science  
University of Tennessee, Knoxville, TN (UTK)  
Summa Cum Laude, GPA 3.80

August 2012 - December 2016

## Research Experience

### Imaging, Signals, and Machine Learning Group

Oak Ridge National Laboratory (ORNL)

January 2017 - Present  
Advised by Dr. Derek Rose

- Using deep learning image segmentation techniques to annotate neurons in calcium images for biological experiments.

### Neuromorphic Computing Research Group

UTK Electrical Engineering and Computer Science Department

Fall 2015, Summer - Fall 2016  
Advised by Dr. James Plank

- Prototyped a simulated unmanned aerial vehicle flight controller on the neuromorphic platform.
- Prototyped a simulated three-dimensional navigation controller on the neuromorphic platform.
- Investigated algorithmic improvements in evolutionary optimization for training neuromorphic networks.
- Developed a visualization suite for the DANNA neuromorphic neural network model.
- Developed tooling for improved software organization and testing.
- Developed the group website: <http://neuromorphic.eecs.utk.edu>.
- First author on one paper, co-author on two papers.

### Maritime Piracy Research Group

UTK Political Science Department

Fall 2014, Spring 2015  
Advised by Dr. Brandon Prins

- Developed a web application for searching and mapping approximately 7000 maritime piracy incidents.

## Publications

### Peer-reviewed Journals

- A. Disney, J. Reynolds, C. D. Schuman, **A. Klibisz**, A. Young, and J. S. Plank. DANNA: A Neuromorphic Software Ecosystem. *Biologically Inspired Cognitive Architectures*, 9:49–56, July 2016.

### Peer-reviewed Conferences

- **A. Klibisz**, G. Bruer, C. D. Schuman, and J. S. Plank. Structure-based Fitness Prediction for the Variable-structure DANNA Neuromorphic Architecture. In *International Joint Conference on Neural Networks*, Anchorage, May 2017.
- C. D. Schuman, A. Disney, S. P. Singh, G. Bruer, J. P. Mitchell, **A. Klibisz**, and J. S. Plank. Parallel Evolutionary Optimization for Neuromorphic Network Training. In *Machine Learning in HPC Environments, Supercomputing 2016*, Salt Lake City, November 2016.

## Professional Experience

### StudyLoop Web and Mobile Application

Knoxville, TN

June 2015 - March 2016  
Co-Founder, Software Engineer

- Developed the StudyLoop web application and all server-side services.
- Collaborated with two iOS developers to release web and iOS applications in approximately three months.
- Participated in the 2015 Knoxville Entrepreneur Center “CodeWorks” startup accelerator program.

### Cadre5, LLC

Knoxville, TN

Spring 2014, Summer 2015  
Software Engineering Co-op

- Developed features for two customer web applications on client, server, and database levels.

### Georg-August University

Göttingen, Germany

Summer 2014  
Software Engineering Intern

- Developed an automated user interface testing suite for a web application used for exam scheduling.

**Duracell Packing and Manufacturing Plant**  
Cleveland, TN

Summer 2012, Summer 2013  
Software Engineering Intern

- Contributed to internal web applications for emergency response and safety audits.

## **Freelance Web Development**

2012 - 2015

Knoxville, TN

- Developed complete websites with content management systems for local businesses, university events, and university clubs.

## **Professional Skills**

- Programming languages: Python, Javascript, C++, HTML/CSS, C, SQL, Java.
- Libraries and tools: Scikit-learn, Pandas, Numpy, Keras, Gensim, igraph, MPI, OpenMP.
- Infrastructure: Docker, Jenkins CI, AWS EC2, AWS Elastic Beanstalk, AWS Lambda.
- Source control: Git, Subversion.

(Listed in order of proficiency.)

## **Professional Presentations**

- Exploring Serverless Architectures with AWS Lambda and Node.js, one-hour presentation, Codestock Conference, Knoxville, TN, July, 2016.
- React.js, Flux, and Realtime RSVPs, one-hour presentation, Knoxville Javascript Meetup, Knoxville, TN, April, 2016.

## **Honors**

- Selected for the Knoxville Entrepreneur Center “CodeWorks” startup accelerator program, September - December 2015.
- UTK Chancellor’s Honors Program, 2012 - 2016.
- UTK Dean’s List, 2012 - 2016.
- Undergraduate Scholarships: Tennessee Engineering Foundation, 2015; Charles and Martha Sprankle, 2014 - 2016; David W. Straight, 2014 - 2016; Volunteer, 2012 - 2016; Fred M. Roddy, 2012 - 2016.

## **Organizations**

- Knoxville Data Science Meetup, member, August 2016 - present.
- Knoxville Javascript Meetup, member, October 2015 - present.
- UTK WomEngineers Day Conference, event organizing committee, December 2014 - April 2015.
- Vol Computing (student organization contributing to Folding@Home and other volunteer-computing projects), founder and president, June 2014 - May 2015.
- UTK Club Tennis Team, travel team member, 2012 - 2016.

## **Events**

### *Professional Conferences*

- MLConf, Atlanta, GA, September, 2016.
- Music City Code, Nashville, TN, August, 2016.
- CodeStock, Knoxville, TN, July, 2016.
- PolyConf, Poznań, Poland, June, 2016.
- Nodevember, Nashville, TN, November, 2015.
- Music City Code, Nashville, TN, August, 2015.
- CodeStock, Knoxville, TN, July, 2015.
- CodeConf, Nashville, TN, June, 2015.
- IEEE WIE International Leadership Conference, San Jose, CA, April, 2015.
- WomEngineers Day, Knoxville, TN, April, 2015.

### *Hackathons*

- Major League Hacking (MLH) at Vanderbilt University, November, 2016.
- MLH at UTK, October, 2016, Third Place Overall.
- MLH at University of Kentucky, April, 2016, Second Place Best use of Wolfram Language Award.
- MLH at Georgia State University, March, 2016, Best use of AWS Award.
- Cisco Internet-of-things Hackathon, San Jose, CA, April, 2015, Best Business Value Award.