

# Christian Kauten

Graduate Research Assistant at Auburn University  
<https://kautenja.github.io>

April 13, 2019  
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## Education

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| <b>Auburn University</b><br><i>Ph.D. Software Engineering</i>  | Auburn, AL<br>2017 – 2020 |
| <b>Auburn University</b><br><i>M.S. Software Engineering (Non-Thesis)</i>  | Auburn, AL<br>2017 – 2019 |
| <ul style="list-style-type: none"><li>– Committee: Prof. Xiao Qin (advisor), Prof. Ashish Gupta (advisor), Prof. Dean Hendrix</li><li>– Emphasis on applications of artificial intelligence and data science</li></ul> |                           |
| <b>Auburn University</b><br><i>B.S. Software Engineering</i>   | Auburn, AL<br>2013 – 2017 |
| <ul style="list-style-type: none"><li>– Deans List: Fall 2016, Spring 2017</li></ul>   |                           |

## Research Experience

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| <b>Auburn University</b><br><i>Research Assistant under Prof. Ashish Gupta</i>  | Auburn, AL<br>2017 – 2020 |
| <ul style="list-style-type: none"><li>– Used machine learning to model donor retention for a US Blood Center</li><li>– Conducted DHS-funded research on financial sector vulnerability</li><li>– Developed a deep learning-based intelligence augmentation system for autonomous vehicles</li></ul> |                           |

## Publications

1. Christian Kauten, Ashish Gupta, Xiao Qin, Han Li, and David Bevly. A perception augmentation system for autonomous vehicles. In *Pre-ICIS SIGDSA Symposium on Decision Analytics Connecting People, Data, and Things*, San Francisco, CA, USA, December 2018.
2. Xiaopu Peng, Christian Kauten, Chaowei Zhang, Thomas Heckwolf, Jianzhou Mao, Taha Tekreeti, and Xiao Qin. REDUX: Managing renewable energy in data centers using distributed UPS systems. In *IEEE SmartCloud*, New York, USA, September 2018.
3. Chaowei Zhang, Ashish Gupta, Christian Kauten, Amit V. Deokar, and Xiao Qin. Detecting fake news for reducing misinformation risks using analytics approaches. *Journal of Operation Research*, 2019.

## Presentations

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| <b>A Perception Augmentation System for Autonomous Vehicles</b><br>– 2018 Pre-ICIS SIGDSA Symposium<br>– Prototype Demonstration | San Francisco, CA<br>December, 2018 |
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## Participation in Workshops and Conferences

- **Workshop on Synchronization and Timing Systems (WSTS) 2019** San Jose, CA  
*National Institute of Standards and Technology (NIST)* March 25 – 28, 2019

## Awards, Grants & Honors

Department of Homeland Security (DHS) Research Grant . . . . . 2018  
Woltosz Graduate Fellowship . . . . . 2017 – 2020  
Eagle Scout Award . . . . . 2011

## Selected Open Source Projects (<https://github.com/Kautenja>)

**Super Mario Bros for Open AI Gym** Python  
*A framework for training reinforcement learning agents to play Super Mario Bros.* 2018  
**NESpy Emulation System** Python, C++  
*A python interface for developing NES-based reinforcement learning environments.* 2018

## Skills

**Numerical Analysis and Computer Science** Computational Science, Algorithm Design & Analysis, Artificial Intelligence, Machine Learning, Parallel Programming, Distributed Systems, Data Structures

**Software Engineering** Test & Behavior Driven Development, Software Modeling, Debugging, Profiling, Code Optimization, Documentation, Source Control, Software Process

**Programming Environments** Python, C++, Swift,  $\text{\LaTeX}$ , HTML, CSS, JavaScript

**Technologies** Keras, TensorFlow, CoreML, SciKit Learn, NumPy