# Christian Kauten

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https://kautenja.github.io

## Research and Work Experience

### Graduate Teaching Assistant
Auburn, AL

*Auburn University*
*2021 (Spring)*

- Assisted the administration of a graduate level course on Operating Systems.

### Graduate Research Assistant
Auburn, AL

*Auburn University*
*2017 – 2021*

- Developed a user interface for autonomous vehicles to augment the intelligence of the passenger using camera sensors and object detection models. Conducted a behaviorial study to determine that the proposed system improved human trust in artificial intelligence, and consequently the intention to adopt an autonomous vehicle. Findings are being preparred for submission to a refereed journal.
- Conducted DHS–funded research on financial sector vulnerability to GNSS timing disruptions by developing equity market simulations using agent-based modeling techniques. Findings were circulated internally for the US Department of Treasury.
- Conducted research on blood donor retention for a regional blood center using machine learning techniques. Findings are under the first round of review for publication in the Information Systems Frontiers journal.
- Developed a Nintendo Entertainment System (NES) emulator in C++ and Python as an OpenAI Gym interface. Built a deep reinforcement learning agent that was capable of beating the game Super Mario Bros.

### Synth Designer
Atlanta, GA

*KautenjaDSP*
*2020 –*

- Published and actively maintain digital synthesis modules based on programmable sound chip emulations – oscillators, noise generators, envelope generators, filters, and delay lines.
- Published and actively maintain a novel modular synthesizer based on Nintendo Entertainment System (NES) emulation that features modulation of the CPU clock, audio-rate modulation of buttons, and level control of the audio synthesis channels.

## Education

### Ph.D., Computer Science & Software Engineering
Auburn, AL

*Auburn University*
*2017 – 2021*

### M.S., Computer Science & Software Engineering
Auburn, AL

*Auburn University*
*2017 – 2019*

### B.S., Software Engineering
Auburn, AL

*Auburn University*
*2013 – 2017*

## Awards, Grants & Honors

Woltosz Graduate Fellowship . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2017 – 2020
Eagle Scout Award . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2011