

Noah W. Johnson

GRADUATE RESEARCH ASSISTANT · TEACHING ASSISTANT · UNDERGRADUATE LAB COORDINATOR

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Research Interests

Augmented and Virtual Reality · Wireless Edge Computing · Machine Learning · Embedded System Design

Education

GRADUATE

University of Rhode Island

MASTERS OF SCIENCE, ELECTRICAL ENGINEERING

Focus: Edge Computing, Augmented/Virtual Reality Networking

Kingston, RI

August 2018 - Present

UNDERGRADUATE

University of Rhode Island

BACHELORS OF SCIENCE, COMPUTER ENGINEERING

Major GPA : 3.85/4.00

Kingston, RI

August 2014 - May 2018

Honors & Awards

GRADUATE

2018 **2nd Place**, HealthHacksRI 2018 (of 10 teams representing 6 universities)

Kingston, RI

UNDERGRADUATE

2016 - 18 **Dean's List**, University of Rhode Island

Kingston, RI

2018 **4th Place**, URI Capstone Spring Summit (out of 17 teams)

Kingston, RI

2017 **6th Place**, URI Capstone Fall Symposium (out of 17 teams)

Kingston, RI

Professional Experience

Smart Networking and Computing (SNeC) Lab

Kingston, RI

GRADUATE RESEARCH ASSISTANT, UNDERGRADUATE LAB COORDINATOR

May 2018 - Present

- Extended previous project to novel mobile-based hazard avoidance system. Presented works at (URI)² Research Symposium.
Coordinate 2 undergraduate researchers working on this project.
- Developing Machine Learning task partitioning test bench for testing load-balancing algorithms. Currently using Tensorflow.

Handheld Arbitrary Waveform Generator - AstroNova Inc.

Kingston, RI

EMBEDDED SYSTEMS ENGINEER

Aug. 2017 - Present

- Designed and implemented FPGA-based architecture using VHDL and Xilinx Vivado Tools.
- Wrote firmware to support control of waveform parameters using C and Vivado SDK.
- Assisted in writing PC based application for fine control of waveforms using C#.

University of Rhode Island IT Services

Kingston, RI

IT HARDWARE SPECIALIST

Oct. 2016 - Present

- Serviced/optimized hardware and software daily for students/faculty. Honed communication and teamwork skills.

VoltServer Inc.

East Greenwich, RI

PRODUCTION ENGINEERING INTERN

Mar. 2017 - Aug. 2017

- Designed and constructed production testing / validation equipment and software.
- Performed RMA work on high voltage power transmission boards. Honed soldering ability.

Project Experience

GRADUATE

Third-Eye Hazard Avoidance System

SNeC Lab Research Project

FOCUS: AUTONOMOUS DRIVER ASSISTANCE

Spring 2018 - Present

- Extended previous experience with Tensorflow and Deep Learning to implement Alexnet-based classifier and detector
- Trained model on German street sign database and deployed to Android application for proof of concept implementation.

UNDERGRADUATE

Exploration of Deep Learning in Computer Vision

ELE 408 - Embedded System Design

FOCUS: MACHINE LEARNING, EDGE COMPUTING, EMBEDDED SYSTEMS

Spring 2018

- Developed Neural Network to quickly identify movement within live IP Camera footage using Tensorflow and SSD MobileNet.

Various Models of Digital Control

ELE 458 - Digital Control Systems

FOCUS: DESIGN OF SISO/MIMO CONTROL SYSTEMS, OBSERVER-BASED REGULATORS, DIGITAL TRACKING SYSTEMS

Spring 2018

- Extensively used Matlab, Simulink and lab hardware to derive and implement linear hardware control systems.

Fractal Algorithm Optimization

ELE 405 - Digital Computer Design

FOCUS: INSTRUCTION SET DESIGN, PIPELINE OPTIMIZATION

Fall 2017

- Optimized 7 Stage Pipeline CPU written in VHDL for graphics processing. **Earned 3rd best optimization metric in class of 30.**

Teaching Experience

GRADUATE

ELE 202 : Digital Circuit Design Laboratory

Graduate Teaching Assistant

TOPICS INCLUDE: BOOLEAN LOGIC CIRCUITS, FINITE STATE MACHINES, CIRCUIT SIMULATION

Fall 2018 - Present

- Taught Sophomore-level course on basics of digital circuit design, assisted students with debugging circuit logic
- Reinforced best practices in circuit analysis, critical thinking, and problem solving

Presentations and Poster Sessions

GRADUATE

(URI)² Research Symposium

Kingston, RI

POSTER SESSION

September 2018

HealthHacksRI 2018

Kingston, RI

PRESENTATION AND DEMONSTRATION SESSION

September 2018

UNDERGRADUATE

Spring Capstone Design Summit

Kingston, RI

PRESENTATION AND POSTER SESSION

May 2018

Technical Skills

Data Science	Python, Deep Learning using Tensorflow, Event driven simulation using C/C++/VHDL, MATLAB
Embedded Systems	2 years of FPGA logic design using VHDL, Programming of said architectures using C
Linear Control	Design/analysis of digital control systems using MATLAB and Simulink, Delta analysis of control systems
Other	Robust knowledge of most operating systems, Effective communicator, public speaker, project coordinator