Noah W. **Johnson**

Graduate Research Assistant · Teaching Assistant · Undergraduate Lab Coordinator

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Research Areas

Augmented Reality	Low-cost Hazard Avoidance System for vehicles, HoloLens-based anxiety therapy
Networking	Implemenation of load-balancing algorithms, Efficent video streaming and encoding
Linear Control	Design/analysis of digital control systems using MATLAB and Simulink, Delta analysis of control systems
Machine Learning	Applications of CNNs for Object Segmentation, ML Task Partitioning between the mobile device and the cloud

Education

University of Rhode Island — *South Kingston, RI*
Masters of Science, Electrical Engineering — *August 2018 - Present*
Focus: Edge Computing, Augmented/Virtual Reality Networking

University of Rhode Island — *South Kingston, RI*
Bachelors of Science, Computer Engineering — *August 2014 - May 2018*
Major GPA : 3.85

Honors & Awards

2016 - 18	**Dean's List**, University of Rhode Island	*South Kingston, RI*
2018	**2nd Place**, HealthHacksRI 2018 (of 10 teams representing 6 universities)	*South Kingston, RI*
2018	**4th Place**, URI Capstone Spring Summit (out of 17 teams)	*South Kingston, RI*
2017	**6th Place**, URI Capstone Fall Symposium (out of 17 teams)	*South Kingston, RI*
2014	**Eagle Scout**, Boy Scouts of America, Troop 27	*Toledo, OH*

Professional Experience

Smart Networking and Computing Lab (SNeC) — *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

Third-Eye Hazard Avoidance System *SNeC Lab Research Project*

FOCUS: AUTONOMUS 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.

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 2018*

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