Noah W. **Johnson**

Graduate Research Assistant · Teaching Assistant · Engineer

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Research Interests

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

Education

Graduate

University of Rhode Island — *Kingston, RI*

Masters of Science, Electrical Engineering — *August 2018 - May 2020 (Expected)*

Focus: Network-Aware Task Partitioning, Edge Computing, Augmented/Virtual Reality Networking

Undergraduate

University of Rhode Island — *Kingston, RI*

Bachelors of Science, Computer Engineering — *August 2014 - May 2018*

Honors & Awards

Graduate

2018 **2nd Place**, HealthHacksRI 2018, for the project VR Panic Attack Management System — *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*

Other

2014 **Eagle Scout**, Boy Scouts of America, Troop 27 — *Toledo, OH*

Professional Experience

Navatek Ltd. — *Kingston, RI*

Naval Engineering Intern — *May 2019 - Aug. 2019*

- Designed and Implemented a framework for Augmented Reality Registration using fiducial markers in C++
- Coordinated with team members to integrate Pose Estimation to achieve centimeter-level precision

Smart Networking and Computing (SNeC) Lab — *Kingston, RI*

Graduate Research Assistant, Undergraduate Lab Coordinator — *May 2018 - Present*

- Investigating Wireless Edge Computing for Machine Learning applications
- Developing system for Augmented Reality aided health management
- Developing Augmented Reality System for transportation applications

Hand-held Arbitrary Waveform Generator - AstroNova Inc. — *Kingston, RI*

Embedded Systems Engineer — *Aug. 2017 - May 2018*

- 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#.

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.

Poster Sessions

Graduate

"Third-Eye" : Driver Assistance System *(URI)^2 Research Symposium*

Poster Session *September 2018*

- Utilized experience with Tensorflow, Deep Learning, and Networking to implement Alexnet-based classifier and detector
- Trained model on German street sign database and deployed to Android application for proof of concept implementation.
- Presented work in University-wide innovation competition.

VR Panic Attack Management System *HealthHacksRI 2018*

Presentation and Demonstration Session *September 2018*

- Designed and implemented prototype Virtual Reality-based Panic Attack Management System.
- Presented our solution to independent board of industry professionals
- **Awarded 2nd place**

Undergraduate

WG800 : Portable Waveform Generator *Spring Capstone Design Summit*

Presentation and Poster Session *May 2018*

- Developed PCB, VHDL Design, and C-based high level system from scratch with minimal oversight.
- Presented 9 months of work and functional prototype to industry professionals.
- **Awarded 4th place**

Teaching Experience

Graduate

ELE 302 · Electronic Design Automation Laboratory *Graduate Teaching Assistant*

Topics Include: Synchronous/Asyncronous Logic Design, Low-Frequency Logic Design (50 MHz) *Spring 2019 - Present*

- Taught Junior Level Course on Electronic Design Automation in VHDL using Altera Cyclone Boards. Focusing on introductory fabric-level design.

ELE 339 · Electronics I Laboratory *Graduate Teaching Assistant*

Topics Include: Nonlinear Circuit Elements, Frequency Analysis, Circuit Simulation *Fall 2019 - Spring 2020*

- Taught Junior-level course on transistor theory and design of amplifiers, filters, and other nonlinear circuits.

ELE 202 · Digital Circuit Design Laboratory *Graduate Teaching Assistant*

Topics Include: Boolean Logic Circuits, Finite State Machines, Circuit Simulation *Fall 2018 - Fall 2019*

- 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

Technical Skills

Augmented Reality	Unity, Google ARCore, Deploying to Mobile Augmented Reality Systems
Edge Computing	Image compression and video streaming, Queueing system modeling and simulation
Embedded Systems	FPGA Design, ARM Processors, Socket Programming, CGI
Other	Robust knowledge of most operating systems, Effective communicator, public speaker, project coordinator