Aidan Johnson

20016 18th Ave NW
Shoreline, WA 98177

+1 (206) 919-3859
j.a.johnson@ieee.org
aidanjohnson.github.io

EDUCATION

Bachelor of Science in Electrical Engineering — September 2014 – June 2018
University of Washington — Seattle, WA
Concentration: Digital Signal Processing — *GPA:* 3.83/4.00

– Design & Application of Digital Signal Processing, Digital Signals & Filtering, Digital Image Processing, Discrete-Time & Continuous Linear Systems, Random Signals in Communications, Medical Imaging, Digital Circuits & Systems, Data Structures & Algorithms, Synthetic Biology, Genome Informatics, Devices & Circuits

EXPERIENCE

Student Research Assistant — September 2017 – present
Applied Physics Laboratory — University of Washington

– Design and develop microphone and filtering circuits, ICs, and data acquisition on the ARM architecture for an autonomous bat detection and tracking array in order to derive computational principles of coordinated flight and sensing across multiple agents. Collaborate with research associate on ultrasonic acoustic signal processing and analysis of bat echolocation and flight to derive neural-computational principles of active sensing.

Energy Intern — June 2017 – September 2017
Wastewater Treatment Division — King County, DNRP

– Worked and communicated in multidisciplinary teams, division-wide in treatment plants and offsite facilities. Analysed energy data and estimated energy cost savings from energy efficiency measures using statistical models.

Undergraduate Research Assistant — February 2016 – June 2016
Renewable Energy Analysis Lab — University of Washington

– Surveyed research literature on power systems economics optimisation of energy storage capacity and location, in support of a post-doctorate researcher.

PROJECTS

Musical Instrument Classification — May 2018 – June 2018

– Developed a robust real-time and automatic musical instrument classifier based on the perceptual feature of timbre using the machine learning model Support Vector Machines (SVM) for a two-person capstone project.

Conway's Game of Life — March 2018

– Using Verilog, implemented this cellular automaton game on an FPGA with the current state of the "cells" being indicated by patterns on a colour LED array.

Impressionist Painting Effect — December 2017

– Implemented a non-photorealistic rendering (NPR) algorithm in MATLAB for creating an impressionistic oil painting effect on digital images given layered curved brush strokes parameters set in a GUI.

Motor Speed Control — March 2017

– Led three-person team of students in developing and prototyping a pulse width modulation (PWM) semiconductor-based speed control for small DC motor for a design project.

SKILLS

Programming — Python, MATLAB, Java (intermediate); Verilog, LaTeX, C/C++ (basic)
Technical — Git, Multisim, Quartus, ModelSim, SolidWorks (intermediate); Microsoft Office (advanced)

HONOURS

UW Institute for Neuroengineering (UWIN) Post-Baccalaureate Fellow — March 2018 – present
Quarterly & Annual Dean's List — September 2014 – June 2018
Eta Kappa Nu (HKN) - Iota Upsilon Chapter — 2017 – present
IEEE Member — 2015 – present