ADAM FOSHIE

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EDUCATION

The University of Tennessee - Knoxville   August 2020–Present
Ph.D. in Computer Engineering   Cumulative GPA: 3.93/4.00
Concentration: VLSI/ASIC System Design

The University of Tennessee - Knoxville   August 2019–July 2021
M.S. in Computer Engineering   Cumulative GPA: 3.92/4.00
Concentration: VLSI/ASIC System Design   Summa Cum Laude

The University of Tennessee - Knoxville   August 2014–May 2019
B.S. in Electrical Engineering   Cumulative GPA: 3.92/4.00
Minor: Computer Science   Summa Cum Laude
Concentration: Engineering Honors, 5yr M.S./B.S. Program

HONORS & AWARDS

Outstanding EECS GTA	2020
Cook Grand Challenge Honors Graduate	2019
Dean's List	2014-2019
Volunteer Scholarship	2014-2019
Hope Scholarship with Merit	2014-2019
Neubert, Len & Nancy Lois Scholarship	2015-2019
Sprankle, Charles & Martha Scholarship	2017-2019

WORK EXPERIENCE

The University of Tennessee - TENNLab Neuromorphic Research   Knoxville, TN
Graduate Research Assistant   May 2018 - Present

- Designing and prototyping a novel neural processor architecture for FPGA deployment and fabrication into an ASIC.
- Collaborated with other researchers in the development of an autonomous neuromorphic robot capable of avoiding obstacles and targeting objects.
- Wrote SystemVerilog and VHDL code to design and test hardware control applications for novel neuromorphic computing processors on FPGAs
- Created C++ code for an asynchronous, multi-chip communication software simulator of scalable neuromorphic arrays

Duke Energy   Charlotte, NC
Transmission Engineering Co-op   August 2016 - May 2018

- Developed high level SCADA communication architecture designs for transmission protection devices
- Drafted CAD electrical schematic drawings used in the design of transmission substations
- Performed protective relay coordination studies and set relay device protection settings accordingly

RELEVANT SKILLS & CERTIFICATIONS

Programming Languages:
Bash, C, C++, HTML, MATLAB, Python, SKILL, SystemVerilog, Tcl, Verilog, VHDL

Computer Software/Tools
Altium, AutoCAD, Calibre, Git, HSpice, Inkscape, KiCAD, LaTeX, Linux, LTSpiceXVII, Spectre, Virtuoso Layout Suite, Vivado Design Suite

Certifications
NCEES: Engineer in Training (E.I.T.) – Electrical & Computer Engineering   (2018)

RELEVANT COURSEWORK

ECE	651	Comp. Aided VLSI	Final Grade: A	ECE	563	Fire Protection Eng.	Final Grade: A
ECE	555	Embedded Systems	Final Grade: A	ECE	551	Digital Systems	Final Grade: A
ECE	533	VLSI Design	Final Grade: A	ECE	532	Analog IC Design	Final Grade: A
ECE	553	Computer Networks	Final Grade: A	ECE	457	Comp. Architecture	Final Grade: A
ECE	432	Electronic Amps	Final Grade: A	ECE	431	Operational Amps	Final Grade: A
ECE	336	Electronic Circuits	Final Grade: A	ECE	335	Electronic Devices	Final Grade: A
COSC	530	Computer Organization	Final Grade: A	COSC	522	Machine Learning	Final Grade: A
COSC	302	Algorithms	Final Grade: A	COSC	140	Data Structures	Final Grade: A

PROJECTS & ORGANIZATIONS

TENNLab Neuromorphic Computing
Research Project

- RAVENS RNA - Reconfigurable Neuromorphic Array
- Developed and fabricated a custom digital architecture in SystemVerilog for a spiking neuromorphic array
- Performed verification with SystemVerilog test benches and C++ code

ECE 555 - Embedded Systems Design
Final Project

- GRANT - Ground-Roaming Autonomous Neuromporphic Targeter
- Engineered robot capable of autonomous operation controlled by neuromorphic hardware
- Created custom power delivery elements and PCB design

ECE 551 - System on Chip Design
Final Project

- PANDA - Pong with A Neuromorphic DANNA2 Adversary
- VHDL FPGA implementation of the classic game Pong as a hardware control application
- Designed game logic and handled drawing image data to screen via VGA
- Supports human vs player and player vs A.I. gameplay powered by the DANNA2 neuromorphic processor

IEEE Student Member - Institute of Electrical and Electronics Engineers
Organization

- IEEE is a professional association of scientists and engineers that fosters technological innovation and excellence for the benefit of humanity.