Trevor Vannoy

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tvannoy

Education

Aug 2017 – Present **PhD Electrical Engineering**, *Montana State University*, Bozeman, MT.

Aug 2017 – Present **M.S Electrical Engineering**, *Montana State University*, Bozeman, MT.
Thesis: *Enabling Rapid Prototyping of Audio Signal Processing Systems using System-on-Chip Field Programmable Gate Arrays*

Aug 2012 – May 2016 **B.S. Electrical Engineering**, *Montana State University*, Bozeman, MT.
Computer Engineering minor, 4.0 GPA, Highest Honors

Research Experience

Aug 2017 – May 2019 **Graduate Research Assistant**, *Montana State University*, Bozeman, MT.

- Development of an Open FPGA-based Speech Processing Platform

Aug 2015 – May 2016 **Undergrad Research Assistant**, *Montana State University*, Bozeman, MT.

- Development of an FPGA Platform for Automating Laboratory Equipment

June – Aug 2015 **Lee Teng Research Intern**, *Argonne National Lab*, Lemont, IL.

- Control system modeling and stability analysis of an adaptive noise suppression system for the Advanced Photon Source particle accelerator

Work Experience

May 2019 – Present **Engineer**, *Flat Earth Inc.*, Bozeman, MT.

- SoC FPGA and microcontroller development
- Audio and radar signal processing
- Linux server administration

June 2016 – July 2017 **Embedded Software Engineer**, *Fluke Calibration*, Everett, WA.

- Developed a graphical application in Python to aid hardware bring-up
- Designed and wrote firmware for a multifunction electrical calibrator

May – Aug 2014 **Engineering Intern**, *Western Area Power Administration*, Billings, MT.

- Developed statistical data analysis software in Microsoft Excel VBA and Python to compare power system model parameters with historical data

Teaching Experience

Aug 2018 – Present **Graduate Teaching Assistant**, *Montana State University*, Bozeman, MT.

- SoC FPGAs I
- SoC FPGA II
- Digital Signal Processing
- Circuits II

Aug 2015 – May 2016 **Undergrad Teaching Assistant**, *Montana State University*, Bozeman, MT.

- Introduction to Electrical Engineering

Publications

Trevor Vannoy, Jacob Senecal, and Veronika Strnadova-Neeley. "Improved Subspace K-Means Performance via a Randomized Matrix Decomposition". In: *2019 IEEE Global Conference on Signal and Information Processing (GlobalSIP)*. IEEE, Nov. 2019. DOI: 10.1109/globalsip45357.2019.8969298.

Ross K. Snider, **Trevor Vannoy**, et al. "Real-time audio signal processing using system-on-chip field programmable gate arrays". In: *The Journal of the Acoustical Society of America* 146.4 (Oct. 2019), pp. 2879–2879. DOI: 10.1121/1.5136987.

Trevor Vannoy, Tyler Davis, et al. "An Open Audio Processing Platform Using SoC FPGAs and Model-Based Development". In: *Audio Engineering Society Convention 147*. Oct. 2019. URL: http://www.aes.org/e-lib/browse.cfm?elib=20623.

Service

2019 – 2020	Senior Design team advisor
2020 – 2018, 2016	Montana FIRST LEGO League Robotics volunteer
2019, 2018	Montana Science Olympiad event captain
2018	Presenter for Belgrade Library's youth summer program
2018	Mentor for Belgrade Library's Google CS-First program
2020, 2018	Montana State University Family Science Night volunteer
2017	Montana Science Olympiad volunteer

Honors and Awards

2019	Outstanding Teaching Assistant of the year
2017	College of Engineering Benjamin Fellowship
2016	Top Student in Electrical Engineering
2016	Outstanding Senior in Electrical and Computer Engineering
2015	Outstanding Junior in Electrical and Computer Engineering
2015	Kathryn S. & Walter L. Titus Jr. Memorial Scholarship
2014, 2013	Len G. Robbins Memorial Scholarship
2013	NorthWestern Energy Community Works Scholarship
2012	Montana University System Honors Scholarship

Skills

Programming Languages	MATLAB, Python, VHDL, C, C++	**PCB Design**	KiCad, Eagle
FPGA Tools	Intel Quartus		