

James Choncholas

PhD Student

Research interests include decentralized and Byzantine fault tolerant systems.

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EDUCATION

Doctor of Philosophy Atlanta, GA - *Computer Science*

SEPTEMBER 2019 - PRESENT

Georgia Institute of Technology, Atlanta

Bachelor of Science Madison, WI - *Electrical Engineering*

SEPTEMBER 2012 - DECEMBER 2016

University of Wisconsin, Madison
GPA: 3.72 / 4.0

EXPERIENCE

Sound Devices, LLC Madison, WI - *Software Engineer*

JUNE 2016 - JUNE 2019

Board bring-up and technical lead on Xilinx ARM based [devices](#). Embedded applications drive FPGA implemented audio mixers and record professional quality audio. Software developed with C++ 11 on FreeRTOS with an emphasis on using modern language features to improve reliability. Product sales on the order of tens of millions of dollars.

DevOps engineering to containerize cross-compilation tool chain and parallelize software and FPGA builds using GitLab pipelines and Docker.

Cross platform mobile application development with Xamarin.

Sound Devices Wingman: [Apple App Store](#), [Google Play Store](#), [Demo](#)
A10-Tx Remote: [Apple App Store](#), [Google Play Store](#), [Demo](#)

Spacelabs Healthcare Madison, WI - *Co-op*

JUNE 2015 - JUNE 2016

Designed fixture to test a ventilator, a component of an anesthesia machine that breathes for a patient undergoing surgery.

Automated data flow from test fixture to the electronic Device History Record database using LabVIEW and TestStand. Created tool that generated control charts and Cpk charts for analysis in manufacturing.

Trained on procedures for working in an FDA regulated industry.

LANGUAGES

C++, C#, C, JavaScript, Python, Solidity, Java, Matlab, Julia, HTML/CSS

AWARDS

**Georgia Tech
President's Fellow**
(2019-2024)

Engineering Expo 1st Place Exhibitor -

Individual undergrad category (2015) A [music recommendation system](#) similar to Pandora. The program used DSP techniques such as spectral centroid tracking to extract features from each of the songs in its library. After feature extraction, the program ran the K-NN machine learning algorithm to determine which songs were most similar. Over 5000 people attended. [Source Code](#).

**Bruce W. Shand
Engineering
Scholarship** (2015,
2016)

Grainger Scholarship
(2013, 2014)

PROJECTS

GeoENS - Geographic Split Horizon for Ethereum Name Service

Augmentation to existing DNS infrastructure to support low latency DNS lookups for edge applications. GeoENS is a smart contract specification for decentralized location services built on the Ethereum Blockchain. [EIP Specification](#) - [Source Code](#) - [Presentation](#)

On-Chain Signatures with MPC

Application of Unbound Tech's secure multiparty computation (MPC) [ECDSA Signature Library](#). A signature is jointly computed between two parties and stored in a smart contract. [Source Code](#)