# Zachary Minot

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## Experience

### MICROSOFT
*Software Engineering Intern*                    *May 2022 - Aug. 2022*
- Designed and built a custom radio frequency FPGA block to convert from a proprietary packet type to the DIFI standard using **SystemVerilog** and **C++**, enabling 4x overall efficiency
- Implemented a DIFI packet C++ library and a 'middleman' proprietary to DIFI packet software, installed/compiled via **CMake**

### GEORGIA TECH
*Incoming Graduate Teaching Assistant for Deep Learning*       *Aug. 2022 - December 2022*

### AMAZON, INC
*Software Development Engineer I Intern*              *May 2021 - Aug. 2021*
- Designed and constructed a monthly calendar view in an internal dashboard for specific events in **Angular/Typescript**, saving both business users and SDEs time and effort in editing and testing
- Identified unsupported packages and defective unit tests within the existing project and created plans to fix the issues

### GEORGIA TECH
*Head Teaching Assistant, Senior Teaching Assistant, Teaching Assistant*       *May 2020 - May 2022*
- Head TA for CS 2340 **Objects and Design**, a project-based Object-Oriented Design course with 470+ students
- Leading 15+ TAs across 4 different teams working closely with the professor while balancing normal TA responsibilties including office hours and grading students' work

### ROCKEFELLER CAPITAL MANAGEMENT – MERLIN WEALTH MANAGEMENT
*Software Development Intern*                     *Jan. 2021 - May 2021*
- Extended internal application to aid in management of company data with **React** and **Python Flask**

### CONVOPANDA
*Software Intern*                           *May 2019 - Jan. 2020*
- Full-stack development using **Ruby on Rails, Bootstrap, and HTML/CSS/JS**.

## Projects

### SUPER NEAT BROS.
*Fall 2020*
- A machine learning team project that trains a model to both play and memorize Super Mario Bros. on an NES emulator
- Built the image recognition portion of the project, including the data cleaning, KMeans, and CNN
- **Built with: Pytorch, Scikit-learn, Python, Jupyter-Notebook, Lua**

### MACHINES ARE AMONG US
*Fall 2020*
- Training Recurrent Neural Networks (LSTMs) to "communicate" back and forth to determine which of them is an imposter and attempting to find interesting results, inspired by the game Among Us
- **Built with: Pytorch, Python**

### G-PAD (GENERAL-PURPOSE AUDIO DEVICE)
*Fall 2020*
- Used an FPGA (DE-10 Lite) for square wave generation to a protoboard speaker to write music
- Implemented the first version of note production, the ability to play notes on two speakers at once, and wrote a Python script to aid in composing music
- **Built with: VHDL, Python**

## Education

Georgia Institute of Technology
*Class of 2023*
- M.S. in Computer Science
  *concen. Computer Systems*

Georgia Institute of Technology
*Class of 2022 – 3.96 GPA*
- B.S. in Computer Science
  *concen. Systems/Architecture and Intelligence*

## Skills

### LANGUAGES
- C++
- Verilog/SystemVerilog
- Java
- Python
- C
- HTML/CSS/Javascript
- Typescript
- SQL
- x86/x86_64

### TECHNOLOGIES
- Xilinx Vivado
- Pytorch/Scikit-Learn/NumPy
- Linux/Bash
- Git/GitHub
- Microsoft Azure
- OpenMP/OpenMPI
- JavaFX
- Qiskit

### MISC
- Drums and Bass
- Frisbee
- Board Games

## Relevant Courses

### SYSTEMS
*Advanced Operating Systems, Real Time Systems, Operating Systems, Computer Systems and Networks, Processor Design*
- All As

### A.I./OTHER
*Machine Learning, Deep Learning, Computer Vision, Data Structures and Algorithms*
- All As