ABRAHAM STROSCHEIN

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EDUCATION

SEPTEMBER 2020 – MAY 2024 (IN PROGRESS)

COMPUTER ENGINEERING, UNIVERSITY OF ST. THOMAS

- 4.0 Cumulative GPA, Aquinas Scholars Honors
- Received Science, Math and Engineering scholarship
- Treasurer for Rock Climbing Club, member in Instrumental Jazz Ensemble

EXPERIENCE

MAY 26, 2021 – PRESENT

UNDERGRADUATE RESEARCH INTERN, UNIVERSITY OF ST. THOMAS

- Digital ion channel amplifier under Dr. Lucas Koerner with NIH grant
- Design Python architecture and implement host control programming
- Communicate host computer to FPGA to peripheral ICs via SPI, I^2C
- Use Git version control
- Write, document, and release Python package *pyripherals* on PyPI
- Collaborate on hardware and software designs with a small group

MARCH 1, 2021 – MAY 21, 2021

WEB INTERN, UNIVERSITY OF ST. THOMAS

- Create webpages, news, events, widgets on OneStThomas intranet

PROJECTS

Automated Phone Locker

- User locks phone in motorized drawer using keypad with LCD feedback
- Program an Arm Cortex M4 on a STM board in C
- Use built-in ADC, timer, interrupts, GPIO to control motion sensor, load cells, keypad, LCD, LED indicators, and more

Square to Sine Wave Op-Amp Filter

- Convert square wave to sine wave with the same frequency and double the amplitude
- Use LM741 op-amp to implement a narrowband bandpass filter
- Use Fourier Series to calculate bandpass frequency
- Design PCB using Multisim and Ultiboard

FPGA VGA Display Script

- Synthesize Verilog hardware model
- Use clock dividers and state machines to interact with a display over VGA

SKILLS

- Software: Python, C, C++, Java, Verilog, Matlab, Git, GitHub, Office 365
- Hardware: op-amps, PCB design in Multisim and Ultiboard