**ETHAN T. BLAKE**

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EDUCATION

**Bachelor of Science in Computer Science** December 2022

Oregon State University GPA: 3.91

**Bachelor of Music in Vocal Performance** May 2018

Arizona State University GPA: 3.84

PROJECTS

**Grid-Test-GUI**

* Developed a Python GUI for controlling various instruments, including a dc power supply,

extinction ratio meter, oscilloscope, multimeters, and ovens.

* Implemented synchronous data collection using multiprocessing and threading.
* Enabled live data manipulation, collection, and visualization.

**Source-Screen-Calculator**

* Development**:** Utilized Pandas, Numpy, Numba, and Cuda to calculate micrometer-scale light travel.
* Complexity**:** Addressed an O(n^4) problem due to short distances.
* Scale**:** Handled calculations for 1000x1000 source and screen arrays, equating to trillions of computations.
* Optimization**:** Used Cuda for GPU calculations and Numba for CPU parallelization, dividing the tasks.
* Result**:** Achieved a ~150x speedup, streamlining complex calculations.

**CS344 Small-SH** [GitHub](https://github.com/EthanBlake417/cs344-smallsh)

* Created a C program in Linux that mimics some Bash Shell functionality,

(e.g., ls, <, >, pwd, cd) for an OSU school project.

**LPF-Coefficient-Optimizer** [GitHub](https://github.com/EthanBlake417/LPF-Coefficient-Optimizer)

* Developed a Python optimizer to find optimum filter coefficients to fit one sine wave to another.
* Utilized the sum of the absolute value of the differences in two sine waves to adjust coefficients.

**Personal Website** [Website](https://www.ethanblake-computerscientist.com/home_page.html) | [GitHub](https://github.com/EthanBlake417/ethanblake-computerscientist)

* Built a personal website with Python, Flask, Html5up, and hosted it on Vercel

SKILLS

**Languages:** Python, C, C++, HTML, CSS, MASM 32-bit Assembly, JavaScript, SystemVerilog

**Technologies:** PyVISA, Matplotlib, Tkinter, Pandas, Multiprocessing, Numpy, Ctypes, Cython, Numba, Eel, Cuda, OpenCL, Open MP Parallel Programming, Open MPI Parallel Computing, Linux, APIs, Flask, Xilinx Vivado

WORK EXPERIENCE

**Undergraduate Learning Assistant: Data Structures** September 2021 – December 2022

Oregon State University

* Held office hours twice a week for 2 hours.
* Performed 25+ weekly code reviews on student assignments.
* Developed a student python style guide.

**Software Engineer** May 2020 – Present

Grid Evolution Technologies, Scottsdale, AZ

* R&D: Constantly write new scripts or UI for emerging problems.
* Application Development: Developing a GUI for a three-phase chassis for Hubbell.
* Software Maintenance: Maintain GUI software for Grid Evolution Technologies and Dynamp.

AWARDS

**PSAT National Merit Scholar**