

## NATHNAEL (NATI) BEKELE

nathnaelb@uchicago.edu | [GitHub](#) | [LinkedIn](#) | [Portfolio](#)

### EDUCATION

---

**The University of Chicago**, Chicago, IL

*Bachelor of Science in Computer Science focusing on Quantum Computing and Computer Systems* expected June 2025.

**Honors:** Winter Tech Showcase Best Overall for GuessTheWiki (2024), University of Chicago Advanced Scholar (2024), Dean's List (2021/22), Odyssey Scholar.

### TECHNICAL SKILLS

---

**Programming Languages:** Python, JavaScript, C++, C, Bash, SQL.

**Libraries:** *[Python]:* Flask, Django, Jinja, Cirq, Qiskit, Pytest, Numpy, Pandas, Asteroid, *[C++]:* algorithms, ranges, numeric, *[JavaScript]:* React, Socket.IO, Express, d3, *[Other]:* Bootstrap.

**Tools:** Git, Neovim, VsCode, Gdb, Tmux, Sqlite.

**Interests:** Library Development, Quantum Software, Backend Development, Computer Systems, High-Frequency Trading, High-Performance Computing.

### EXPERIENCE

---

**Meyer's Group (Dr. Meyer's Astrophysics Research Group at the University of Chicago),** Chicago, IL  
*Research Assistant focusing on Computer System Development* September 2024 – Current

Focusing on system development for sensors to be used in the Wilkinson Microwave Anisotropy Probe satellite.

- Implement read/write locks for shared memory used by sensors with Python to improve system robustness.
- Implement safe data writing via UDP for infrared cameras to prevent network and system crashes.
- Implement system-wide sensor status check, termination, and restart protocol to ensure sensors are always functional while the device is in use.
- Design and implement a calibration system for the infrared cameras to interpret data across different ambient temperatures the device experiences during launch.

**Inflection (Quantum Software and Hardware Company)** Chicago, IL  
*Quantum Software Engineering Intern in the Compiler Team,* June 2024 – August 2024

Focused on developing testing, linting, and formatting tools, improving the website, and quantum computing.

- Developed measurement and classical control conversion between Pytket and Cirq to expand circuits handled.
- Implemented cancelation for quantum jobs sent to different vendors reducing the cost.
- Reimplemented non-deterministic algorithms to catch bad user inputs, and avoid test failing for random seeds.
- Enhanced security of the [Superstaq website](#) with password recovery, email validation, and deprecated password hash handling using Flask.
- Developed custom Pylint plugins to improve code styling consistencies and catch type errors.
- Implemented Github workflows to improve continuous integration to a research repository.

**University of Chicago Biological Science Division** Chicago, IL  
*Student Data Analyst and Programmer* November 2023 – September 2024

Focused on automating the department's fiscal and analytical work.

- Developed multithreaded data backup software with version checks and OAuth using TKinter, Boxsdk, and Python that handles multiple folders and files simultaneously to automate manual and tedious backup processes.
- Automated department's publication tracking with Flask web software to save more than 5 hours per week.
- Implemented web scraper with Selenium and Python to fetch 260 data points to automate manual copy-pasting.

### PERSONAL PROJECTS

---

- [localgit](#) (Python): Command line tool for managing multiple local git repo clones simultaneously.
- [GuessTheWiki](#) (Flask, React): Wikipedia article title guessing web game that includes multiplayer gameplay.
- [licensepy](#) (Python): Python dependency license check library with recursive dependency handling for pip.
- [gabata](#) (Python): PC mancala game with Ethiopian rule set including bots of different strengths.
- [ampy](#) (C++): Python programming language with Amharic keywords. (In Progress)