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.
Libraries: *[Python]:* Flask, Django, Jinga, Cirq, Qiskit, Pytest, Numpy, Pandas, Asteroid, *[JavaScript]:* React, Socket.Io, Express, d3, *[Other]:* Bootstrap.
Tools: Git, gdb, Neovim, VsCode, Tmux
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.

Infleqtion (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 add integration testing 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.
- [**gabata**](#) (***Python***): PC mancala game with Ethiopian rule set including bots of different strengths.
- [**licensepy**](#) (***Python***): Python dependency license check library for pip and conda environments. (In progress)
- [**ampy**](#) (***C++***): Python programming language with Amharic keywords. (In Progress)