# Thomas Raczkowski

Software Developer
github.com/ratchek • linkedin.com/in/thomas-raczkowski/ • ratchek.com/

## Education

### Master's of Science in Computer Science
*Expected Graduation: May 2026*

*CUNY – Brooklyn College, Brooklyn, NY*

Data Science, Database Design, Algorithms Analysis & Design, Operating Systems, Computer Architecture, Distributed Computing, Theoretical Computer Science, Management Information Systems

### Bachelor of Arts in Applied Mathematics, Minor in Computer Science
*May 2019*

*CUNY - Queens College, Flushing, NY*

Data Structures, Algorithmic Problem Solving, Object Oriented Programming (OOP), Computation Theory, Cryptography, AI with IBM Watson, Probability & Statistics, Graph Theory, Set Theory & Logic, Linear Programming & Game Theory

## Skills

Python, Django, Go/Golang, Git, Linux, Bash Scripting, SQL, C, Java, AWS Lambda, AWS S3, PostgreSQL, Redis

## Experience

### Security Engineer
*April 2025 – present*

*Deniable*

- Conducted in-depth security code review and system-level assessment, uncovering several critical vulnerabilities including 9.8-CVSS critical vulnerability in network traffic caused by certificate mishandling; produced remediation spec
- Authored internal documentation outlining threat vectors and secure development practices to aid future development
- Designed a covert-communication channel to meet stringent security requirements; produced an internal decision brief that compared alternatives, outlined potential problems and trade offs, and mapped out an implementation plan
- Conceived and designed a caching schema to decrease network traffic analysis attacks while increasing responsiveness
- Helped fundraising – presented technical deep-dives during investor pitches, translating architecture into business value
- Co-authored government grant proposals totaling $175K; provided technical justification and budget narratives

### Backend Engineer Intern
*February 2025 – April 2025*

*NapX*

- Designed and implemented a local development workflow for **Redis** to circumvent connection limits on the production instance, ensuring uninterrupted service and enabling multiple developers to conduct parallel testing.
- Diagnosed and resolved Chromebook IPv6 conflicts in the Crostini environment, restoring npm functionality and significantly reducing setup time for fellow interns.

### Django developer
*Jan 2023 – Sep 2023*

*Tar Technology, Freelance*

*door2door.nyc/*

- Developed **Django**-based tracking system for real estate canvassing; reduced error rates in record management by 10%.
- Integrated NYC housing databases into system using **PostgreSQL**, enhancing homeowner lookup speeds by 50%

### Web Developer
*October 2021 – December 2022*

*Our Lady of Consolation RCC Brooklyn, Part-time*

*choirhub.org/*

- Spearheaded the development of 'ChoirHub', a comprehensive **Django**-based platform that manages both PDF sheet music and vocal recordings for multiple voice part, complete with an admin backend that enables the choir leader to effortlessly manage resources without the necessity for any coding knowledge.
- Significantly increased individual at-home practice rates among members from 12.5% to 50%, directly enhancing the speed and quality of learning new compositions for group performances.

*olc-brooklyn.com/*

- Revamped the church website by integrating an admin panel and upload handling using **Django** and **PostgreSQL**, increasing ease of use and slashing weekly website update time by 90%.
- Optimized web performance by migrating media files to **Amazon S3**, cutting webpage loading times by 65%.

## Projects

- **Vorta** – Proposed, initiated and created a 'development mode' for Vorta, an open-source, **Python**-based **GUI** for the Borg deduplicating backup application. This mode effectively safeguarded developers' personal files and streamlined the development process by sandboxing settings, cache, and temporary files. This ensured that developers could experiment without the risk of affecting their personal file backups, promoting a safer and more efficient development environment.
- **Registrar Automation for BADC** – Automated data migration using **Ruby**, **Nokogiri**, and **SQLITE3**, reducing required man-hours from 40 to 5 per event resulting in an 87.5% efficiency gain
- **Colornote to Joplin** – Developed a migration tool for transferring notes and metadata from ColorNote (a closed-source app without export functionality) to Joplin, an open-source note-taking app, enhancing data portability and empowering users with full control over the ownership of their data.