Yabesi Witinya

13 Oak Drive, Hamilton, NY 13346

Email: ywitinya@colgate.edu | Portfolio: ywitinya.github.io | Phone: +1 (315) 790-4847

LinkedIn: linkedin.com/in/ywitinya

Education

Colgate University, Hamilton, NY

Bachelor of Arts in Computer Science, Expected May 2026

- GPA: 3.54/4.00 | Major: Computer Science | Minor: Applied Mathematics |
- Dean's Award for Academic Excellence (Fall 2022 – Spring 2024)
- Study Abroad: University of Manchester, Fall 2024
- Relevant Coursework: Data Structures & Algorithms, Introduction to Computer Systems, Discrete Structures, Computational Statistics, GIS Course, Database Systems, Software Testing, Data Analysis

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Skills

- **Programming Languages:** Python, Java, C, R, JavaScript, HTML, CSS, Matlab
- **Frameworks & Tools:** React, Node.js/Express.js, Django, Pandas, NumPy, AWS Amplify, MySQL, Figma, Digital Ocean
- **Certifications:** DandyHacks 2023 Winner, IACT Excel Core, IACT Illustrator CC

Experience

Co-Founder & Developer – LearntheFix Web Platform

Remote | Spring 2025 – Present

- Co-founded and built a full-stack web platform connecting learners with professionals for hands-on skill development
- Developed the backend using Node.js/Express.js and integrated a remote MySQL database hosted on DigitalOcean
- Implemented secure user authentication, file uploads via Multer, and environment-based configuration for deployment

- Integrated Nodemailer to automate email notifications, including welcome messages, bookings, and password resets

Research Assistant – DNS Naming Patterns and Geolocation

Colgate University | Summer 2025 – Present

Advisor: Prof. Joel Sommers

- Researching DNS naming conventions using Namefill, a tool for synthesizing patterns from reverse DNS records

- Developed Python pipelines to extract, normalize, and classify naming patterns based on IP embeddings, sequencing, and anomalies

- Constructed tree- and graph-based data structures (N-ary trees, token DAGs) to analyze structural patterns across subdomains

- Applied string-matching techniques (exact, fuzzy, prefix) alongside external geolocation datasets (GeoNames, UN LOCODE) to detect geographic signals in domain names

- Created interactive visualizations with NetworkX and matplotlib to illustrate naming conventions used by ISPs and cloud providers

- Research contributes to publications in network measurement, DNS infrastructure, and Internet geolocation

Research Assistant

National Science Foundation, Colgate University | Summer 2024

Advisor: Prof. Joel Sommers

- Analyzed DNS name-to-IP connected components using Python and command-line tools

- Processed 2+ billion A records from Rapid7 Project Sonar using zDNS lookups and Python APIs

- Developed and tested a regex-based classification of DNS naming conventions

- Improved processing efficiency through optimized data handling algorithms

Computer Science Tutor

Colgate University | Spring 2023 – Present

- Supported students in Java, C, R, and Python courses through individual and group sessions

- Assisted during lab hours and organized exam prep sessions for 10–20 students weekly

- Simplified complex programming concepts to enhance student understanding

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Technical Projects

Study Sparx – Personalized Learning Platform

Fall 2024

- Designed wireframes in Figma and built a responsive UI using Next.js and TailwindCSS

- Developed component-based architecture to streamline development and team collaboration

- Enabled goal tracking and time management features to support personalized learning

Galaxy Space Shooter – Java Game

Spring 2023

- Built a multi-level space shooter game using Java AWT for graphics and input control

- Applied OOP principles (e.g., polymorphism, inheritance) for modular and scalable code

- Increased engagement by incorporating progressively challenging threats across levels

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Leadership & Extracurricular Activities

Admissions Ambassador

Colgate University | Summer 2023 – Present

- Lead well over 300 campus tours and webinars for prospective students and families

- Contribute to data-driven initiatives to improve the admissions experience

Vice President, African Student Union

Colgate University | Fall 2023 – Spring 2024

- Organized cultural events including fashion shows, film screenings, and educational workshops

- Promoted inclusivity and community through cross-campus collaborations

Community Leader (Resident Advisor Equivalent)

Colgate University | Fall 2023 – Spring 2024

- Managed a residence hall of 54 students, addressing conflicts and promoting well-being

- Planned and led four community-building events to foster engagement and inclusion