Ibrahim Alqassass

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EDUCATION

Bachelor of Science: Computer Science — Expected May 2028
Minor: Finance — GPA: 3.94
Susquehanna University, Selinsgrove, PA
Honors: University Scholar, Dean's List (all semesters)
Related Coursework: *Algorithms, Data Structures, Object-Oriented Programming, Computer Organization (In Progress), Machine Learning (In Progress)*

INTERNSHIP EXPERIENCE

Sherman Fairchild Research Assistant, Susquehanna University, Selinsgrove, PA — May 2026 – Present

- Built a role-based access control (RBAC) gateway with Next.js and Flask, isolating dashboards for four user tiers and securing REST endpoints with custom authorization decorators.
- Developed a multithreaded Python pipeline to pull data from the BirdWeather GraphQL API, using memory-efficient parsing and retry/backoff logic to cut fetch times by over 50%.
- Created a seasonal analytics engine that aggregates biodiversity metrics from ecological sensor data across year boundaries and exports results to structured CSV datasets.
- Designed a PostgreSQL schema to store hashed user credentials, role-based permissions, and volunteer-submitted media, backing the platform's four-tier access control.
- Engineered a Random Forest classification pipeline in Python to categorize ecological datasets into four distinct labels (rare species, resident, summer migratory, and winter migratory), employing cross-validation and dumbbell plot visualizations to evaluate and present model performance.

RELATED EXPERIENCE

Teaching Assistant, Susquehanna University, Selinsgrove, PA — Sep 2026 – Present

- Mentored 20 students in the Principles of Computer Science course through hands-on Python implementation, providing active debugging support during class and dedicating 3 hours weekly to individualized office hours.
- Led biweekly Friday practice sessions to synthesize theoretical concepts, designing targeted coding problems that bridged the gap between lectures and practical application.

Research Assistant, Middle Susquehanna Riverkeeper Association, Sunbury, PA — May 2025 – Aug 2025

- Engineered a low-cost IoT sensor network (S.M.A.R.T.) using Arduino microcontrollers to track real-time temperature and humidity metrics, establishing a continuous, reliable data pipeline for remote ecosystem monitoring.
- Developed and instructed an interactive STEM curriculum using micro:bit processors to teach foundational programming concepts to youth (ages 8–13), successfully fostering early engagement in technical problem-solving and environmental stewardship.

LEADERSHIP AND SERVICE

Vice President, Muslim Students Association, Susquehanna University — Sep 2026 – Present

- Directed cross-institutional programming by partnering with Bucknell University to host an Eid celebration (100+ attendees), successfully uniting students and local community members across both campuses.

Secretary, Muslim Students Association, Susquehanna University — Sep 2025 – May 2026

- Coordinated logistical operations for weekly Ramadan Iftar gatherings, managing member communications and event execution to sustain consistent community engagement throughout the month.

SKILLS

Languages: Python, JavaScript, TypeScript, SQL, HTML/CSS
Tools: PostgreSQL, GraphQL, REST APIs, Git/GitHub
Libraries: React, Next.js, Flask, FastAPI, Tailwind CSS
Soft skills: Technical Mentorship, Cross-Campus Collaboration, Event Coordination, Public Speaking & Presentation