Aimé Césaire Mugishawayo

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EDUCATION

Amherst College	Amherst, MA
Bachelor of Arts in Computer Science and Math	*Expected May 2025*

- Relevant Coursework: Data Structures, Algorithms, Artificial Intelligence, Machine Learning, Computer Systems, Computer Networks, Computer Security, Number Theory, Abstract Algebra, Real Analysis.   GPA:3.95/4.00

Sorbonne Université	Paris, France
Study Abroad Semester	*Jan 2024 – May 2024*

- Relevant Coursework: Cryptography.   GPA: 3.67/4.00

PROJECT EXPERIENCE

Web and App Development
Node.js, React, Tailwind CSS, Unity Engine, MySQL, HTML, TypeScript, C#, Java

- Developed a personal portfolio website, a web-based video call app, and a Brick-breaker video game.
- Designed a canteen management system and website for Riviera High School in Kigali, Rwanda.

Cybersecurity
RSA, DHM, OpenSSL, Reverse Engineering, GDB, x86-64 Assembly, Python, Java

- Developed cryptanalysis and steganography detection tools to decipher encrypted messages and extract data hidden in images.
- Modified program behavior by analyzing low-level code and crafting malicious inputs to execute buffer overflows.

Artificial Intelligence and Machine Learning
Search Algorithms, Reinforcement Learning, Deep Learning, scikit-learn, Python

- Built and tested AI agents for a Capture-The-Flag contest; combined classical, adversarial search and reinforcement learning.
- Investigated the relationship between soccer playstyles and performance by training and testing various machine learning models.

Computer Systems and Networks
Graph Algorithms, Network Protocols, RAM management, Java, C

- Created a simulated network, implementing error-mitigation, flow control, and routing protocols.
- Simulated a memory management unit, implementing efficient heap-allocation, caching, garbage collection, and paging mechanisms.

WORK EXPERIENCE

Amherst College- Math Department	Amherst, MA
Grader	*Sep 2022 – Present*

- Support instruction goals by providing constructive, detailed feedback on Abstract Algebra assignments for 11 students.

Amherst College- Computer Science Department	Amherst, MA
Tutor	*Sep 2022 – Present*

- Mentoring students 9 hours weekly on Object-Oriented Programming, Java Collections, and Java Graphics libraries.

Amherst College- IT Department	Amherst, MA
IT Service Desk Technician	*Sep 2022 – Present*

- Responded to 2550+ incidents in SolarWinds ServiceDesk, troubleshooting, and resolve 1100+ software and hardware issues.
- Manage 8+ public printers, monitoring and replacing supplies, and provide audio-visual technical support for 50+ events.

Technology Operations Summer Internship	*Jun 2023 – Sep 2024*

- Ran 30+ Wi-Fi surveys, used survey info to upgrade the college network, installing 40+ access points and optical network terminals.
- Imaged 250+ returned computers, increasing efficiency in the hardware return and deployment process.

LEADERSHIP EXPERIENCE

Amherst College- Office of Residential Engagement and Wellbeing	Amherst, MA
Community Advisor	*Jan 2023 – Jun 2023*

- Enhanced community wellbeing in residence halls for 24 residents, organizing events and administering policy.

Amherst Weightlifting Club	Amherst, MA
Treasurer	*Sep 2023 – Dec 2023*

- Managed club budget, maintained accurate financial records, and collaborated with leadership to plan events.

Artificial Intelligence in the Liberal Arts	Amherst, MA
Team Leader	*Sep 2022 – Jun 2023*

- Led the club's web development and outreach teams, established social media outreach strategies and coordinated 6 events.

SKILLS

Software Development and Operations Tools

- Advanced proficiency in Python, Java, TypeScript, React, Node.js, MySQL, Linux, Azure.
- Moderate proficiency in Docker, Kubernetes, REST APIs, Unit Testing, and CI/CD.

Languages and Interests

- Bilingual fluency in French and English.
- Amateur training in piano, African dance, and bodybuilding.