

FALL 2025 EDITION



CANISIUS UNIVERSITY

CCADE NEWSLETTER

CANISIUS CENTER FOR ANALYTICS AND DATA ECOSYSTEMS



Welcome to CCADE

At the Canisius Center for Analytics and Data Ecosystems (CCADE), we are dedicated to advancing interdisciplinary data education, developing data-driven solutions for the public and private sectors, and fostering the growth of the data economy in Western New York and beyond.

We foster collaboration between academia, industry, and the community to support holistic talent development and innovative research.

Academic Programs:

- B.S. in Data Science
- M.S. in Data Analytics
- M.S. in Cybersecurity
- M.S. in Business Analytics



Whether you're a student, alum, faculty member, or industry partner, you're an essential part of our evolving ecosystem.

Letter from the Director

Hello,

Welcome to our first CCADE newsletter! The goal of this biannual newsletter is to share and celebrate the accomplishments of the CCADE program, its faculty, students, and alumni, who make what we do a success! In today's newsletter you will find highlights from our current projects with industry partners (our students are doing some really cool work!) along with program changes (NEW Sport Data Analytics certificate), staffing changes (were hiring!) and recent and upcoming events.

If you have any questions, want to learn more about anything we share, or are looking for other ways to get involved with CCADE please drop me a line (campbe88@canisius.edu).

I look forward to hearing from you and we'll see you in the next edition (if not sooner!)
Best,

Heather Campbell

CCADE Director



Heather Campbell, M.S.

Spotlight on Innovation: EPIIC Grant Fuels Interdisciplinary Projects at Canisius



Thanks to funding from the NSF EPIIC (Enabling Partnerships to Increase Innovation Capacity) program, we are proud to support a growing portfolio of **faculty-student-industry collaborations**.

This work is all about breaking down silos, **building innovative partnerships**, and expanding how colleges like Canisius work across disciplines, from healthcare and science to education and beyond.

Over the past year, teams of faculty and students have launched a number of projects that combine academic research, community impact, and real-world innovation.

Is your company interested in partnering with Canisius?

Find information about partnerships on the CCADE website.

- Complete Innovate Projects
- Access our Diverse Talent Pipeline
- Strengthen Community Ties

[**LEARN MORE**](#)

EPIIC Partners



Examining Relationships Between Protein Properties and Crystallization Conditions

Student: Grace Baumgartner

Supervisor: Phil Sheridan

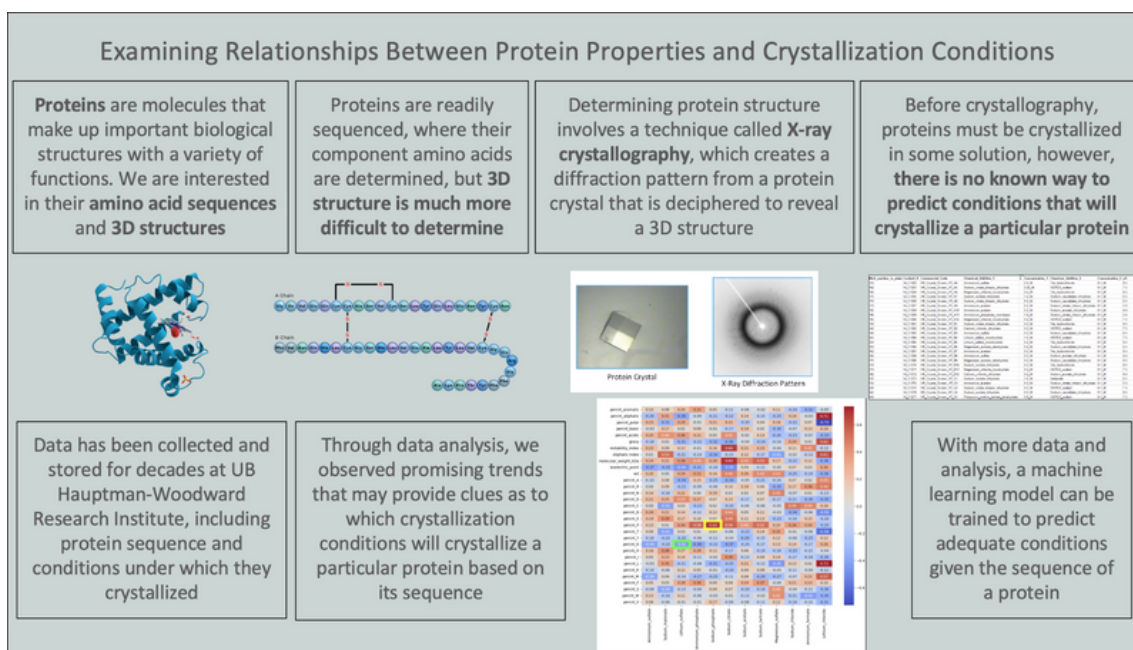
Industry Partner: University at Buffalo Hauptman Woodward Institute

Proteins are macromolecules that make up important biological structures such as parts of your brain and skin. Their 3D structure determines their function and is therefore important in understanding cellular role and disease.

One way to determine the 3D structure of a protein is through a technique called X-ray crystallography. First, protein is crystallized, then an X-ray beam directed at the protein produces a diffraction pattern that allows scientists to determine the protein's 3D structure.

To produce a crystal many different solutions are tested. Unfortunately, there is currently no known way to predict what conditions will crystallize a particular protein.

However, by analyzing data collected and stored at UB Hauptman-Woodward Research Institute, we hope to find relationships between a protein's amino acid sequence and its successful crystallization conditions. Using python code to calculate properties of the proteins and examine correlations between these properties and crystallization success, we observed promising trends that may help inform optimal crystallization conditions. With more data and analysis, a machine learning model could eventually be trained to predict adequate conditions given the sequence of the protein.



AI-driven Multi-institutional Cataloging Exchange Model

Student: Edidiong Ibokete

Supervisor: Sana Spector, PhD, Amy Wood

Industry Partner: Amy Wood, Center for Research Libraries

Many libraries have a backlog of uncategorized materials. To reduce this backlog we created an algorithm to support cooperative cataloging efforts across a network of 19 research libraries. We focused on optimizing how metadata tasks are distributed, using AI-inspired matching logic and fairness principles to ensure transparency, efficiency, and compliance with reciprocity agreements.



Key Accomplishments

Algorithm Design: Built a rule based task assignment algorithm influenced by stable matching theory, (similar to Gale-Shapley) ensuring all 194 cataloging task were allocated with 100% reciprocity compliance.

System Engineering:

Implemented contributor/request caps and randomized fallback logic to balance workload distribution and fairness.

Increased Efficiency:

Improved cataloging efficiency by aligning project assignments with institutional capacity and subject matter expertise.

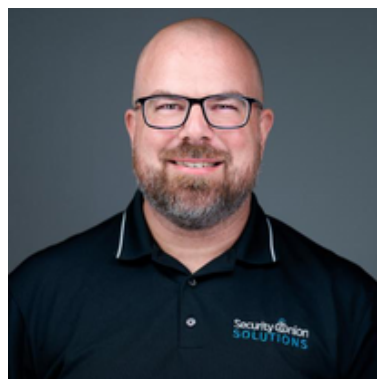
Diagnostic Dashboard:

Delivered a multi-sheet reporting tool logging unmatched requests and unused contributors, and performance metrics, enabling clear oversight and future auditability.

Leadership Update

We're excited to announce that **Matthew Gracie, MBA, CISSP**, has been appointed as the new **Interim Cybersecurity Program Director** at CCADE.

Matt brings a strong background in information security, detection engineering, and threat response, along with years of experience in the classroom. His unique blend of industry knowledge and teaching expertise makes him well-positioned to lead our growing cybersecurity program and support students as they prepare for high-demand careers in the field.



Matthew Gracie, MBA, CISSP

Under Matt's leadership, the program will continue to evolve to meet the changing needs of the cybersecurity landscape, with a focus on hands-on learning, real-world problem-solving, and ethical responsibility in digital spaces.

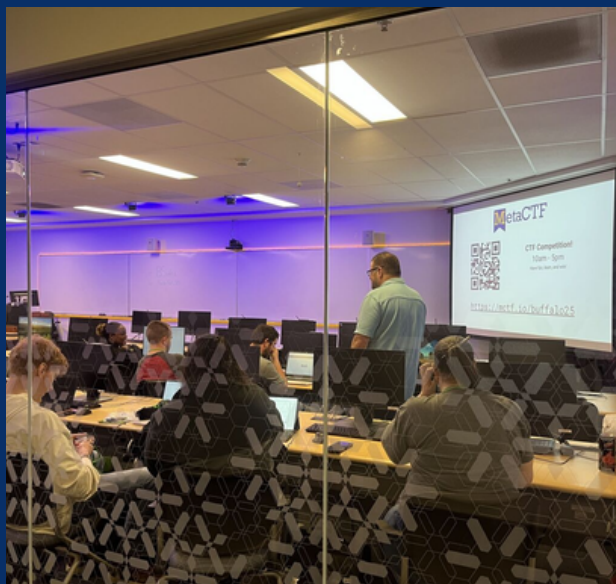
Stay tuned for updates on upcoming cybersecurity initiatives, guest speakers, and ways to get involved.

We're Hiring – Assistant Professor of Computer Science & Program Director for Cybersecurity

The Department of Computer Science at Canisius University invites applications for a tenure-track Assistant Professor position to begin in Spring 2026 or Fall 2026.

This is a 10-month, long-term, tenure-track faculty appointment that also includes serving as the Program Director for Cybersecurity.

[Read More on our website](#)



New Advanced Certificate: Sport Data Analytics



We are excited to launch our newest program: the **Advanced Certificate in Sport Data Analytics**.

This certificate offers specialized training in the use of analytics in sport performance, business operations, and fan engagement.

Whether you're a data professional looking to break into the sports industry or a sport management expert seeking technical upskilling, this program is designed to equip you with in-demand skills in performance analytics, wearable tech data, and sports business intelligence.

The program is fully online, making it convenient for busy professionals to complete while working.



Sports Data Analytics - A Field in Demand

The sports data analytics industry is growing rapidly and offers strong job opportunities.

- The sports analytics market was valued at \$4.14 billion in 2023 and is expected to grow at over 30% annually through 2032.
- **Over 75% of professional sports teams now use real-time analytics** during games to gain a competitive advantage. This growth means more companies need skilled professionals who can work with sports data.

The job market for data professionals in general is also strong:

- Employment of data scientists is projected to **grow by 36%** from 2023 to 2033, which far outpaces the average for other occupations according to Precedent Research.
- Statistician careers are projected to rise significantly through 2030, with a current **median annual salary of roughly \$96,280**, according to JobsInSports.com.

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Celebration of Faculty Scholarship

The Celebration of Faculty Scholarship is a campus-wide event showcasing the diverse research, creative works, and scholarly achievements of Canisius faculty through engaging presentations and interactive displays. At this year's event over 50 faculty members presented and over 100 members of our community attended.



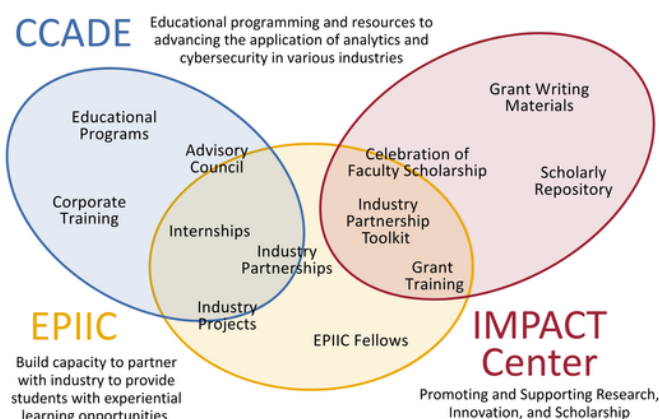
Schedule

October 21, 2026

4:00 - 4:10 Welcome address
from IMPACT Center

4:10 - 5:00 Lightning talks by
faculty members

5:00 - 6:00 Open Scholarship
Showcase and refreshments



This event is hosted by the Canisius IMPACT Center. The IMPACT Center at Canisius University serves as a collaborative hub to promote and support research and scholarship, across all disciplines. CCade Director, Heather Campbell is also director of the IMPACT Center along with Dr. Jonathan Rodgers, Psychology.

**You are invited to attend the 2026 Celebration of Faculty Scholarship Wednesday October 21, 2026
4-6 PM Science Hall.**

Alumni Spotlight:



Trueeye Tafese '25

Msc. Cybersecurity

Internship: Amazon

Company: Amazon

Title: Software QA Engineer



After graduating from our Cybersecurity program, Trueeye joined **Amazon as a Quality Assurance Engineer**, where she works on automation frameworks that enhance the reliability and performance of Prime services. Her strong foundation in software testing, development, and security has enabled her to take on diverse technical challenges — from system analysis to implementing secure development practices.

During her time at Canisius University, Trueeye conducted advanced research on real-world cybersecurity vulnerabilities, creating Docker-based lab environments to help students and professionals understand and mitigate cyber threats.

She also served as a mentor, helping new students and international students navigate college life and introducing beginners to Java programming. In addition to her academic work, Trueeye served as a Graduate Assistant for the Ski Club and the Model United Nations program, where she supported students in leadership, collaboration, and global awareness activities.

“

My experience here shaped me both technically and personally. The support from professors and the collaborative environment inspired me to think critically, lead with purpose, and keep learning.

”

Outside of work, Trueeye enjoys exploring emerging technologies, volunteering in education, and inspiring young women to pursue careers in STEM.

We're proud to see Trueeye excelling in her field and empowering others through her work!

Stay Connected with CCADE !

Have a new job? Promotion?

Started a new project or publication? We'd love to hear from you and celebrate your success.

Update your info here:

<https://app1.canisius.edu/updateyourinfo/>

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Questions about the newsletter?
Contact Heather at campbe88@canisius.edu

