

ALYSSA MECZKOWSKA

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EDUCATION

St. John's University

Computer Science, B.S.

Queens, NY

August 2023 – May 2026

- GPA: 4.0

- Relevant Coursework: Software Engineering, Advanced Data Structures, Database Management Systems, Operating Systems, Computer Architecture, Analysis of Algorithms
- Awards & Honors: Provost Scholarship (August 2023), Clare Boothe Luce Summer Research Award (May 2025), CCPS Honor Society Inductee (October 2025)

PROFESSIONAL EXPERIENCE

IBM Thomas J. Watson Research Center

Research Software Contributor

Yorktown Heights, NY

November 2025 – Present

- Selected to work with IBM engineers on active development of the OSCAL Compass compliance automation toolkit
- Implemented bug fixes, schema improvements, and documentation updates across multiple GitHub issues

MediCaddie Technologies

Software Engineer

Queens, NY

August 2025 – Present

- Lead full-stack development of a clinician dashboard with React, Python, and SQL, streamlining ICD-10/CPT coding
- Integrate machine learning methods to deliver accurate medical code predictions and AI-generated clinical summaries, reducing manual workload for clinicians

Daisy Property Management

Automation Engineering Intern

New York, NY

May 2025 – August 2025

- Built 3 workflow automations, processing 5K+ documents in testing and development, reducing processing time by 95%
- Increased accuracy of payroll and mortgage ops by eliminating recurring manual errors across finance workflows

RESEARCH EXPERIENCE

Collins College of Professional Studies

Quantum Machine Learning Research Assistant

Queens, NY

May 2025 – Present

- Design quantum-enhanced anomaly detection methods for vehicular network handshakes by developing quantum kernels with variational circuits such as data re-uploading and IQP maps
- Evaluate accuracy, robustness, and margin separation to assess conditions where quantum kernels provide advantages over classical kernels in small, correlated datasets

Bukhari Lab

Machine Learning Research Assistant

Queens, NY

April 2025 – Present

- Design and implement end-to-end NLP pipelines for 10K MIMIC-IV clinical notes
- Fine-tuned and evaluated BioBERT, achieving an F1 score of 0.84 for clinician burnout detection

Vázquez Group

Machine Learning Research Assistant

Queens, NY

March 2025 – Present

- Co-lead development of predictive machine learning framework for keto-enol tautomerization
- Built and optimized Random Forest models ($R^2 = 0.71$), identifying key features influencing tautomeric equilibria

PUBLICATIONS AND PRESENTATIONS

Publications

- Bukhari, S. A. C., Keshtkar, F., & Meczkowska, A. (2025). *A Narrative-Driven Computational Framework for Clinician Burnout Surveillance*. Accepted at IEEE International Conference on Machine Learning and Applications (ICMLA 2025).

Presentations

- Meczkowska, A., Vendome, A., Lindberg, G. E., & Vázquez, F. X. (2025, Sept 3). *A Machine Learning Framework for Predicting Keto-Enol Tautomerization Equilibria from Computed Molecular Descriptors*. Poster presented at St. John's University, Queens, NY.
- Meczkowska, A., Vendome, A., Lindberg, G. E., & Vázquez, F. X. (2025, July 4). *The Utilization of Machine Learning Models for Predicting Significant Factors of Keto-Enol Tautomerization*. Poster presented at the MERCURY Conference, University of Pittsburgh, Pittsburgh, PA.

LEADERSHIP AND ACTIVITIES

- Google Developer Group – Lead Organizer (November 2025 – Present)
- STJ CyberStorm – Red Team Competitor (October 2025 – Present)
- Student Technology Governance Group – Board Member (October 2024 – Present)
- Code Path – Mentor (October 2025)

TECHNICAL SKILLS

Programming: Python, Java, C/C++, SQL, JavaScript/TypeScript

ML/AI: PyTorch, TensorFlow, scikit-learn, BioBERT, HuggingFace, spaCy, Psi4, RDKit

Quantum Computing: Qiskit, PennyLane, quantum kernel methods, QSVM

Tools: Git/GitHub, Docker, PostgreSQL, Kali Linux, Jupyter Lab, Google Colab