

# Junior Tamekem Tadiffo

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## EDUCATION

**University at Buffalo**, The State University of New York

*Expected Graduation: May 2027*

**Bachelor of Science in Computer Science**

GPA: 3.902/4

- Relevant coursework: Data Structures, Algorithms and Complexity, Linear Algebra, Probability Theory, Systems Programming, Software Engineering concepts, Computer Science I & II (Object-Oriented Programming, Unit Testing, etc.), Discrete Structures, and Calculus I & II.
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## SKILLS & TOOLS

**Languages:** Python, SQL, Java, C, JavaScript, PHP, HTML & CSS, JCL.

**Tools:** PyTorch, Scikit-Learn, MySQL, Pandas, NumPy, Keras, React, Streamlit, Matplotlib, Seaborn, cURL.

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## WORK EXPERIENCE

**AI Research Assistant - Canon Stroke and Vascular Research Center, Buffalo**

*May 2025 – Present*

- Designing and testing machine learning models on real surgical imaging datasets to support intraoperative guidance during neurosurgical procedures.
- Implementing image processing, data augmentation, and CNN training techniques to improve classification of vascular structures.
- Improving model performance through experimentation with preprocessing workflows and optimization of CNN architectures.

**IBM Z Student Ambassador & Secretary, IBM Z Club**

*April 2025 – Present*

- Lead workshops on JCL, COBOL, Linux/USS, IBM mainframes, and database systems.
- Organized events, coordinated e-board meetings and collaborated with fellow ambassadors to promote the IBM Z Xplore platform and encourage peers to participate in technical challenges.
- Gained hands-on experience with IBM mainframe technologies including z/OS and its ecosystem.
- Earned digital badges for completing technical challenges and showcased knowledge through public speaking at IBM Z events.

**Global Ambassador Leader - University at Buffalo, Buffalo, NY**

*November 2023 – Present*

- Engaged with over 200 prospective international students through panels, events, and campus tours.
  - Produced, edited, and selected engaging video content for platforms like Instagram and TikTok to support international student outreach; one Instagram Reel garnered over 1.3 million interactions, demonstrating effective content strategy and viral marketing skills.
  - Collaborated with 10 ambassadors to plan and execute strategic year-round campaigns and events that boosted international student recruitment and global enrollment.
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## PERSONAL PROJECTS

**My NBA Data Analytics Web Application**

*July 2024 – Present*

- Built and deployed a multi-page Streamlit app with dynamic navigation and routing, featuring 10+ interactive dashboards analyzing NBA player and team statistics
- Trained a predictive model to forecast the excitement level on a scale from 0-1 of upcoming NBA games using data scraped from multiple NBA media sources and the NBA API.
- Developed advanced data visualizations (e.g., scoring splits, player matchup stats, team pace) using Pandas, Matplotlib, Seaborn, and Statsmodels.
- Implemented Pythagorean Expectation and Prediction models to estimate team performance

**Diabetes Prediction with Neural Networks**

*May 2025 – June 2025*

- Designed and trained a neural network to predict diabetes using the PIMA dataset; conducted hyperparameter tuning via grid search using PyTorch, Scikit-learn, and NumPy
  - Applied Monte Carlo Cross Validation (MCCV) and derived a mean ROC curve and idealized error curve to diagnose overfitting and evaluate reliability of predictions.
  - Achieved Mean Accuracy:  $76.1\% \pm 3.7$ , Mean ROC AUC:  $0.812 \pm 0.062$ , and created a diagnostic table for sensitivity, specificity, precision, etc.
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## AWARDS & INVOLVEMENT

**Member:** Data Analytics Club, Basketball Club, SUNY Startup School, National Society of Black Engineers.

**Dean's List Honors** (x3)