Zaiba Amla

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EDUCATION

Northeastern University Boston, MA
Master of Science in Statistics, Concentration in Machine Learning Expected Spring 2027

Toronto Metropolitan University Toronto, ON
Bachelor of Science in Mathematics and its Applications (Honours) May 2024

- Computer Science Concentration & Biology Minor
- Awards: Dean's List (2021), NSERC Undergraduate Student Research Award (2022)

WORK EXPERIENCE

Northeastern University Boston, MA
Teaching Assistant - DS 4400: Machine Learning and Data Mining I Jan 2026 – Present

- Hold weekly office hours providing technical guidance to 30+ students on machine learning concepts, including supervised learning, unsupervised methods, and model evaluation techniques.
- Evaluate homework assignments and projects involving Python implementations using scikit-learn, pandas, and data visualization libraries, and provide detailed feedback on code quality and algorithmic choices.

MyAtlas Boston, MA
Graduate Research Assistant Nov 2025 – Present

- Built a clinical text mining pipeline processing 1.5 million patient records to extract social determinants of health from unstructured EMR notes, implementing entity recognition and normalization logic to map clinical language variations to standardized ICD-10 Z-codes and T-codes across 15 SDOH categories.
- Engineered BigQuery data pipeline integrating 5+ Mayo Clinic EMR tables with extracted text entities, performing statistical analysis of PHQ-9 depression screening effectiveness across 10,000+ behavioral health crisis patients.
- Delivered research presentation to over 50 Mayo Clinic stakeholders as part of Mayo Clinic Platform_Accelerate Program, communicating technical findings and recommending continuous EMR monitoring strategies.

BioTraceIt Toronto, ON
Data Scientist Jun 2024 – Sep 2025

- Developed an unsupervised learning pipeline using K-means clustering to automatically segment biomedical signal patterns across 1000+ samples, implementing scipy peak detection and rolling window feature extraction to reduce manual analysis from 40+ hours to less than an hour.
- Architected end-to-end ML data pipeline from raw signal acquisition through automated feature engineering to production Dash application (PostgreSQL on AWS RDS), enabling researchers to validate algorithmic predictions, correct classification errors, and apply statistical testing (ANOVA) across 100+ treatment cohorts.
- Deployed and monitored 15+ services on AWS infrastructure (EKS, EC2, S3, RDS) using Docker and Kubernetes, implemented CI/CD workflows, and maintained 99%+ uptime for production ML systems.

Toronto Metropolitan University Toronto, ON
Research Assistant: Field of Transitional Medicine Sep 2021 – Apr 2023

- Conducted a systematic literature review of over 80 peer-reviewed articles on medical imaging software and developed a quantitative benchmarking framework to compare 10+ image segmentation and registration algorithms.
- Published 'Review of the Free Research Software for Computer-Assisted Interventions' in Journal of Imaging Informatics in Medicine (2023).
- Presented research findings at Imaging Network Ontario (ImNO) conferences (2022-2023) to audiences of over 100 healthcare professionals and clinical researchers.

TECHNICAL SKILLS

- Programming Languages: Python, SQL, R, MATLAB, Bash, C, HTML, CSS
- Libraries: Pandas, Scikit-learn, NumPy, TensorFlow, Keras, Matplotlib, SciPy, Seaborn, Plotly, PyTorch
- Technologies & Tools: AWS (EC2, EKS, S3, RDS, CloudFront), Docker, Kubernetes, Git, PostgreSQL, MongoDB