

Precious Kolawole

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Education

Carleton University Aug 2022 – Aug 2025

Bachelor of Computer Science Honours, Industrial Applications, Artificial Intelligence and Machine Learning Stream

- *Relevant Courses: Introduction to Machine Learning 3105, Computer Vision 4102, Deep Learning & Neural Networks 4107, Surgical Data Science 4900*

Obafemi Awolowo University Feb 2020 – Aug 2022

Bachelor of Medical Rehabilitation, Physiotherapy (Incomplete)

- *Relevant Courses: Anatomy and Cell Biology, Medical Biochemistry, Physiological Sciences*

Research Experience

Data Science for Interventional Healthcare Lab, Carleton University Ottawa, Canada

Advised by: Dr. Matthew S. Holden

May 2025 – Sept 2025

- Benchmarked supervised, semi-supervised (pseudo-labeling), and unpaired CycleGAN approaches for ultrasound segmentation/simplification on kidney data with U-Net++ ablations across varying paired annotations.
- Established that performance scales with label quantity and task complexity; unpaired methods underperformed. Outcomes: Paper accepted to the Proceedings of SPIE and Oral presentation at the SPIE Image-Guided Procedures, Robotic Interventions, and Modeling Conference 2026.

Nesbitt Biology Lab, Carleton University Ottawa, Canada

Advised by: Dr. Andy Adler, Dr. Jeff Dawson

Nov 2023 – Dec 2024

- Designed an eye-tracking and ocular EMG protocol for concussion assessment (saccadic, calibration, smooth-pursuit) with athlete recruitment through the Sports Medicine Clinic.
- Built a Python-based face detection pipeline using dlib, the Hough Circle Transform for pupil localization, and threshold-based blink detection; extracted x-y eye coordinates and reduced early pupil-eyebrow misclassifications by leveraging scleral boundaries.
- Applied signal-processing methods such as peak detection, exponential-decay fitting, and Dynamic Time Warping alignment. Honours thesis reported higher time constants and error margins in concussed subjects with weak correlation to VOMS.

Current Positions

Research Assistant Sept 2025 – Present

Data Science for Interventional Healthcare

- Building a tracked thoracic/lumbar spine ultrasound dataset by designing protocol, recruiting participants, capturing probe-tracked sweeps, and reconstructing 3D volumes.
- Co-registering reconstructed ultrasound volumes with CT scans and 3D-printed spine phantoms to assess simplification for medical image guidance. Working to open-source the ultrasound dataset.

Engineer, AI Assistants Sept 2025 – Present

Sidekick Evals, Shopify

- *Designing human-in-the-loop evaluation workflows for Shopify large language model agents (Sidekick),*

across quality, alignment, bias, and safety metrics.

Publications

- [1] **Fairness-Aware Machine Learning for Social Bias Detection in Healthcare Research Datasets**  
Precious Kolawole. Proceedings of Machine Learning Research (Accepted, awaiting publication)
Poster & Oral Presentation, Rwanda. [DLI 2025]
- [2] **Annotation Is (Almost) Indispensable: The Limitations of Unpaired Domain Translation and Semi-Supervised Approaches to Ultrasound Simplification** 
Precious Kolawole, Matthew Holden
Image-Guided Procedures, Robotic Interventions, and Modelling [SPIE 2026]
- [3] **Limited Paired Labels Suffice for Binary but Not Multiclass Ultrasound Segmentation** 
Precious Kolawole, Matthew S. Holden.
Imaging Network Ontario Symposium 2026 - Submitted (abstract) [ImNO 2026]
- [4] **Using Convolutional Neural Network to Predict Loan Repayment Via Selfies** 
Precious Kolawole, LendSQR
Poster Presentation. Deep Learning Indaba [IndabaX 2021]

Industry Experience

Applied Machine Learning Engineering Intern, Shopify *Ottawa, Canada*
Core ML Team *Jan 2025 – Aug 2025*

- Implemented a data backfill pipeline with Apache Beam, Dataflow, and Kafka (Monorail) to migrate large-scale ML model predictions from BigQuery into Shopify's MySQL database, with throughput control and rate limiting.
- Integrated a Flux AI image generator into Shopify's Merchant Admin chat tool to create product images from textual prompts and reference images, with feature gating and fraud prevention safeguards.

Backend Engineering Intern, Shopify *Ottawa, Canada*
API Foundations Team *May 2024 – Dec 2024*

- Overhauled the Shopify API Deprecation, API Versioning and API Breaking Changes pipelines that served the entire Engineering Discipline, 3rd Party Developers and Merchants.
- Improved the GraphQL Search Query Debugging experience by 30% for 3rd Party Developers and Merchants.

Frontend Engineering Intern, Shopify *Ottawa, Canada*
Analytics Team *May 2023 – May 2024*

- Launched Unified Analytics (reporting experience dashboard across Shopify) with my team, a product directly supervised by Shopify CEO Tobi Lutke, which made the top 5 products at Shopify Editions 2024.
- Converted raw merchant data into meaningful metrics that helped > 2.1 million merchants draw insights.
- Built optimized data models across the Shopify Web Admin; this prevented data loss and increased our merchants' database by 55%.

Founding Data Scientist, ASALytics *Lagos, Nigeria*
Now Nazari *Oct 2021 – Aug 2022*

- Awarded a \$115k grant in funding from the Algorand Foundation to build the ASALytics platform, a dynamic opinion mining application that retrieves analytics for Algorand blockchain digital assets through real-time scraping from social media platforms.

Machine Learning Engineering Intern, LendSQR

Lagos, Nigeria

Data Science Team

- Built a traditional ML model on customers' lending data to predict loan repayment with 90% accuracy.
- Developed a CNN-based, human selfie-powered model with a RESNET and VGGFace pretrained models to predict customers' loan repayment.

Other Experience

Ethics Assistant

Office of Research Ethics, Carleton University

Ottawa, Canada

May 2024 – Sept 2025

Teaching Assistant, COMP 1805

Discrete Mathematics & Discrete Structures, Carleton University

Ottawa, Canada

Sep 2023 – Dec 2023

Selected Personal Projects

Multilingual Speech Recognition for Clinical Note Taking [precillieo/COMP-3106](https://github.com/precillieo/COMP-3106)

Built a multilingual speech recognition system using the Whisper HuggingFace model to transform patient-clinician conversations into structured clinical notes for improved healthcare documentation across 200+ different languages.

Elixir Cancer Diagnosis AI-Based System [Tanzania AI lab](https://www.youtube.com/watch?v=...)

Built a deep convolutional neural network model with 89% accuracy and a web app that screens microscopic images to detect cancer, thus increasing speed and accuracy in cancer diagnosis and testing. Handed over to doctors in Tanzania's labs for tests and usage.

Tackling Online Harassment Through Allies [precillieo/SafeCyber](https://github.com/precillieo/SafeCyber)

Built a classifier model with about 80% accuracy to predict and categorize harassment from data filled out by harassment victims for further decision-making by ally organizations. This has helped eliminate physical and emotional stress in about 1000 women.

Wikimedia Data Dump [Outreachy 2020](https://github.com/Outreachy2020)





The MultiSim benchmark is a growing collection of text simplification datasets targeted at sentence simplification in several languages. Currently, the benchmark spans 27 resources in 12 languages.

Awards and Achievements





2025	Dev Degree , Fully Funded CS Degree, \$ 160,000, Shopify Black and Indigenous Summer Research Internship , \$8400, Carleton University Canadian Leaders Under 40 shaping Canada's Economy, Culture, and Society , The Peak's 2025 Paul Bregman Family Student Experience Award , \$4,000, Carleton University Best Poster Presentation , Deep Learning Indaba 2025
2024	Rising Star Award , Remarkable achievements and rapid growth in the tech space, She Code Africa
2023	Dean's Honours List , For academic excellence with GPA of 10.0 or higher, Carleton University Clarence C. Gibson Scholarship , \$1,000, Carleton University Cadence Diversity in Tech Scholarship , Academic achievements, leadership, and drive shape the future of technology, \$5,000, Cadence Palantir Women In Technology Scholarship (North America) , \$7,000, Palantir
2020-22	Google Generation Scholarship , Strong academic performance, and commitment to diversity and inclusion, \$5,000, Google 3rd Place Winner , \$200, Google Women Tech Maker Hackathon Mentor of the Year, Global Ambassador & Global Speaker , Women Tech Net- work Ms. Algorithm , Best Female Data Starlet in Nigeria, \$200, Data Scientist Network

Algorand Foundation Grant, \$115,000, to build ASALytics, an opinion-mining platform for Algorand blockchain digital assets.

Selected Press Coverage

- Nov 2024 [TedxMechanicsville: How coding can change your life—and the world](#)  TEDx Talks
- Apr 2025 [Eyes AI Health Solutions](#)  Carleton University Newsroom
- Oct 2023 [How Precious Kolawole Went From OAU Student To Shopify Developer In Canada](#)  PiggyVest
- Nov 2022 [The Future is Bright](#)  Techsploration

Selected Talks

- Carleton University Foundational Machine Learning.
Carleton Computer Science Society (CCSS)
- Obafemi Awolowo University [Telerehabilitation](#)  .
Nigeria Association of Physiotherapy Students (NAPS) 29th Annual Convention
- Pydata Global [How to Kickstart Your Career in Data Science](#)  .
- Women Tech Network Conf. [Explain Machine Learning as to a Kid](#)  .
- One Health Tech Conf. [Machine Learning in Healthcare for beginners](#)  .

Volunteering Services

- 2025 **ICML 2025 Booth Representative** Shopify
- 2024 **NeurIPS 2024** Volunteer
Workshop Facilitator, Talks Panel, Tech Support Virtual Ventures
First Year Connections Mentor Carleton Student Experience Office
SOAR Student Leadership Conference Carleton Student Experience Office 2023
Mentor & Code Judge Technovation
- 2021 **Team Lead** Data Scientist Network (OAU Chapter)
Team Lead Open Source Community Africa (OAU Chapter)
Data Science Mentor Zindi Africa
Data Science Mentor She Code Africa
Global Ambassador Women Tech Network