Brenda Namuhoranye

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Education

Bachelor of Arts and Science, McGill University, Montreal, QC, Canada.   **Sept. 2019- Dec. 2022**
- Major: Honours Cognitive Science, concentration in Computer Science
- Minor: Computer Science

Diplôme d'études collégiales, Dawson College, Montréal, QC, Canada   **Sept. 2017 - May 2019**
- Program**:** Pure and Applied Science

Work Experience

The Canadian Press   **Mar. 2023 - Sept. 2024**
Software Engineer
- Developing robust software components to enhance news delivery and content management applications using Python, AWS, MongoDB, Angular, and REST APIs.
- Leveraging NLP technology to extract gender representation insights from news stories and creating interactive dashboards with AG Grid to visualize the results.
- Conducting in-depth data analysis for journalists, i.e examining court transcripts, and utilizing Plotly to effectively present findings.

AI4Good Lab   **May 2023 - June 2023**
Machine Learning Fellow
- Co-developed "Hide-It," a machine learning Chrome extension that detects triggering content on Reddit, enhancing user safety and experience.
- Presented the product to a diverse group of stakeholders during Demo Day, effectively communicating its value and impact.
- Actively participated in industry conferences and workshops led by experts, gaining insights into cutting-edge machine learning techniques throughout the intensive 6-week program.

Bagot Behavioural Neurogenomics Lab   **Sept. 2021 - May 2022**
Undergraduate Researcher
- Analyzed fiber-photometry and behavioural data to investigate the integration of outcomes over time in reward learning.
- Extensive use of Pandas, NumPy, Seaborn python libraries.
- Summarized findings in honours thesis paper.

Montreal Neurological Institute   **June 2018 - Aug. 2018**
Intern under Dawson Neuroscience Research Group
- Cleaned and processed clinical data using Python (Pandas) to support research.
- Delivered weekly presentations with fellow interns, sharing key learnings.
- Presented the IBIS mission and team learnings at the final poster symposium.

Volunteering

CSUS Helpdesk, McGill University   **Jan. 2023 - Apr. 2023**
Tutor
- Answer drop-in questions regarding assignments and course material.
- Review and help debug students' code.

Cognitive Circuits, Undergraduate Research Journal at McGill   **Sept. 2022 - Apr. 2023**
Editor
- Edit undergraduate research papers concerning, computer
  science, neuroscience, psychology, linguistics, and philosophy.
- Interview graduate students about their research in these fields.

McGill Biomechanics Club, Wearable Tremor Suppression Glove   **Apr. 2022 - Apr. 2023**
Captain of Electrical Team
- Oversee operations of electrical team.
- Define project timeline, targets, and deliverables with Project Lead.
- Lead Inertial Measurement Units (IMU) Selection.
- Lead the implementation of adaptive algorithms (WFLC, BMFLC) for tremor modelling (Python).

Girls Who Code, McGill Chapter   **Jan. 2022 - Apr. 2022**
Facilitator
- Curated an introductory coding curriculum for girls between the ages of 9 - 12.
- Prepared presentations showcasing women in STEM.

Personal Projects

Hand2Text (Python, ReactJS, Flask)
- Developing a full-stack app that translates American Sign Language gestures into text using a scikit-learn
  Random Forest model.
- Integrating webcam input with real-time hand tracking (MediaPipe) and live prediction updates via
  WebSockets.

Secret Library (ReactJS, AWS)
- Developed a book club website enabling members to anonymously share reflections.
- Built a minimalist front-end with ReactJS for a dynamic, responsive experience.
- Integrated AWS API Gateway, DynamoDB for a scalable backend to manage bookvotes and
  user reflections.

GenePath (Python [Plotly])
- Developed a Plotly web application to find the shortest path between multiple locations.
- Utilized the Google Maps API to calculate travel times and visualize locations based on latitude and longitude.
- Implemented a genetic algorithm to optimize the pathfinding process.

Hide-It (Python, HTML,CSS)
- Trained an SVC model with 86% accuracy using scikit-learn to detect distressing reddit content.
- Implemented a Flask API to serve the model, providing scalable and secure access.
- Developed the front end of the chrome extension using HTML, CSS, Javascript.

Visual ML Demo (JavaScript [d3.js], Python, HTML, CSS)
- Developed a web application to visualize fundamental machine learning models, including
  Linear Regression and Support Vector Machine (SVM).
- Wrote Python script that generates weights and costs per epoch for each model.

Skills/Interests
- Programming Languages/Frameworks: Python, React, Angular, SQL, JavaScript, CSS/HTML, Java
- Bilingual (English and French)
- Interests: Software Engineering, Computational Neuroscience, Machine Learning