

Mirza Ahmadi

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EDUCATION

University of Guelph

Jan 2024 - Present

M.Sc., Bioinformatics and Artificial Intelligence – Research-Based

Guelph, ON

- Relevant Courses: Computational Thinking for AI (Linear Algebra, Statistics, Calculus), Bioinformatics Software Tools
- Graduate Student Representative - Bioinformatics Steering Committee and Graduate Student Council

B.Sc. (Hons), Zoology Major with Minor in French Studies (GPA: 3.7/4.0)

Sep 2019 – April 2023

SKILLS AND CERTIFICATIONS

- **Programming Languages & Tools:** Python, R, HTML & CSS, Bash, Unix
- **Relevant Libraries:** Pandas, NumPy, Scikit-learn, TensorFlow, NLTK, Matplotlib
- **Specialized Skills:** Machine Learning (ML), Deep Learning (DL), Genomics, Data Analysis, Scientific Communication
- **Certifications:** [2024 CIFAR DL+RL Summer School](#) | [Compute Ontario Summer School 2024 \(ML + DL\)](#) | [Harvard's CS50 Courses \(AI + Python\)](#) | [Coursera's Math for ML and Data Science \(Linear Algebra + Calculus\)](#)

RELEVANT EXPERIENCE

University of Guelph

Jan 2024 - Present

M.Sc. Research Project

Guelph, ON

- Developing a pipeline to extract, present, and categorize genomic transposable element (TE) sequence data by family
- Integrating **Python**, **R**, **bioinformatics tools**, and **ML** for data processing, TE classification, and model development
- Utilizing **SLURM** to efficiently schedule and manage high-performance computing jobs for genomic data processing
- Presenting the output TE classifications in **Excel** for easy analysis and further use in genome sequencing efforts

University of Guelph

May 2022 – Present

Evolutionary Biology Researcher

Guelph, ON

- Designed and executed an independent research report on snake venom evolution across 127 species and three families
- Analysed proteomics and phylogenetic data using **Excel** and **R**, compiling phylogenies and creating graphical analyses
- Authoring a research paper for publication to add to the current understanding of venom and complex trait evolution

ADDITIONAL WORK EXPERIENCE

Mitacs

April 2022 – Nov 2022

Globalink Mentor

Guelph, ON

- Developed info packages on government regulations and Canadian banking for seven international research interns
- Coordinated two full-day social events and five campus/city tours to foster intern networking and community-building

MSH International

May 2021 – Jan 2022

Data Entry Clerk

Toronto, ON

- Analysed and uploaded invoice data into the company database, consistently meeting the daily quota of 60 reports
- Managed administrative duties including communicating with clients and providers via email

RELEVANT PROJECTS

[Road Sign Categorizer](#) | *Python*

May 2024

- Created a **DL** classifier to categorize road signs into one of 43 categories using the GTSRB dataset of 50 000+ images
- Implemented a convolutional neural network with pooling layers, achieving a classification accuracy exceeding 90%
- Leveraged the Python libraries **TensorFlow**, **Scikit-learn** and **OS** for model building and data preprocessing

[Venom Type Classifier](#) | [Video Demo](#) | *Python*

March 2024

- Developed an **ML** classifier to predict venom types in snake species based on the proportions of 14 venom proteins
- Achieved 94% classification accuracy when given novel snake species and protein data
- Utilized **Scikit-learn**, **Matplotlib**, and **Pandas** to build a support vector machine classifier and visualize PCA data

[SciRef](#) | [Video Demo](#) | *Python, Tailwind CSS, React, Flask, HTML, CSS*

Aug 2023

- Constructed a website which generates customized scientific references for PubMed journal articles
- Enables users to input URLs and order reference components to obtain accurately formatted references

INTERESTS & HOBBIES

- Weightlifting, Spikeball, Catan, Audiobooks, Camping, Herbal Tea, Traveling