Mirza Ahmadi

Guelph, ON, CA (willing to relocate) | (647)-390-8697 | mirza.am.ahmadi@gmail.com | [LinkedIn](#) | [GitHub](#) | [Portfolio](#)

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 on the 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

- **Languages & Tools:** Python, R, HTML & CSS, Bash, Linux, High-Performance Computing (HPC), Git
- **Relevant Libraries:** PyTorch, Pandas, NumPy, Scikit-learn, TensorFlow, NLTK, Matplotlib
- **Specialized Skills:** Machine Learning (ML), Deep Learning (DL), Genomics, Computer Vision, Data Analysis
- **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)](#)

WORK EXPERIENCE

University of Guelph   **Sept 2024 – Present**
Teaching Assistant – Discovering Biodiversity (Introductory Biology Course)   *Guelph, ON*
- Leading weekly seminars for four sections of 30 students and providing teaching support during two weekly lectures
- Developing seminar materials aligned with lecture topics, including genetics, evolution and organismal biology
- Evaluating and providing feedback on student seminar worksheets to enhance understanding and learning outcomes

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 **HPC** 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
- Analyzed proteomic and phylogenetic data in Excel and R to compile phylogenies and create graphical analyses
- Authoring a research paper for publication to add to the current understanding of venom and complex trait evolution

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

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, Traveling