JORDAN ORTONA

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TECHNICAL SKILLS

- Data processing and wrangling using Pandas & NumPy in Python
- Data processing and wrangling using base R and Tidyverse
- Data visualization in Python using Matplotlib and Seaborn and ggplot2 in R
- Biopython in python and Bioconductor in R
- RNA-Seq analysis using DEseq2
- Machine Learning + Deep learning using scikit-learn, PyTorch, and TensorFlow
- Building Large Language Models using transformer architectures, finetuning LLM's and building RAG applications
- Strong knowledge of liquid chromatography tandem mass spectrometry (LC-MS/MS workflows)
- Hands on with proteomics software including DIA-NN, Skyline, Mascot.
- HTML/CSS
- Experience with database languages including SQL and Neo4j
- Adept with Microsoft Office applications
- Built different types of projects in python including games, API-based applications, web-scraping projects, and websites.
- Complete Claude Code in Action Certificate (July 2025)
- Completed 100 days of code: The Complete Python Pro Bootcamp for 2023, Udemy (August 2023)
- Completed Machine Learning Specialization from DeepLearning.Ai Stanford University
- Completed Command Line Tools for Genomic Science course from John Hopkins University

Molecular Medecine – Univesité Laval, Québec   **September 2024 – Present**

Master of Science

- MMO-7018 Statistical Methods in Biomedical Research
- GLO-7030 Deep Learning with Neural Networks
- Participation in the École interdisciplinaire sur les outils et méthodes (EIOM) – Data Science

Research project: Developing AI and machine learning methods to improve peptide identification in high-throughput LC–MS/MS proteomics.

Clinical Bioinformatics – Humber College, Toronto   **September 2023 – May 2024**

Post-Graduate degree.

- Biosequence Pattern Analysis   Data Analytics and Storytelling
- Computational tools & Methods   Bioinformatics and Precision Medicine

- Data Mining Modeling Biostats
- Fundamentals of Data Science
- Introduction to Omics

Ethics in Bioinformatics
Knowledge Translation

100 Days of Code: The Complete Python Pro Bootcamp for 2023 – Udemy   April 2023 – August 2023

Online certification

- Built different types of projects daily including games, API-based applications, web-scraping applications, and websites.

Microbiology and Immunology – McGill University, Montreal September 2017 – December 2020

Bachelor of Science

- COMP 204 – Programming for Life Sciences
- MATH 203 – Principles of Statistics

Health Sciences – Vanier College, Montreal   August 2015 – May 2017

- Dean's Honour List

EXPERIENCE

Internship – Arnaud Droit Laboratory https://compbio.ca/   March 2024 – July 2024

Using Large Language Models (LLMs) to predict proteins from Proteomics Experiments

- Using open-source LLM's from Hugging Face to predict missing peptides in 300 sample per day liquid chromatography and tandem mass spectrometry experiments.
- Finetuning of LLM's such as GPT-2, Googles Gemma-7b-It, Mistral-7b-it and Llama3-8b-it.
- Use of quantized models and parameter efficient fine tuning (PEFT) methods such as LoRa.
- Building RAG applications for proteomics data fetching.
- Training a transformer from scratch to predict proteins.

Research Project – Humber College   January 2024 – April 2024

Circadian System and Aging

- Collaborative research project analyzing private dataset containing gene expression data for Zebrafish and Turquoise Killifish across multiple time points and tissues.
- Analysis of key circadian genes expression profiles over the species lifespan
- Comprehensive data manipulation and wrangling and generation of visuals for downstream analysis.

Integrative Research Project – Humber College   September 2023 – December 2023

Investigating the Genetic Causes of Sarcopenia: A Differential Gene Expression Analysis of Genes Related to Mitochondrial Function and Their Connection to Sarcopenia.

- Collaborative research project analyzing GEO dataset comprising of muscle biopsy expression data.
- The objective is to determine the importance of mitochondrial gene expression in sarcopenia by analyzing differential gene expression of key genes related to mitochondrial functions.
- Data wrangling in R using tidyverse and differential gene expression analysis using Deseq2 package and visualization with ggplot2.

Laboratory Technician – Phagelux Inc., Montréal   **June 2021 – October 2022**

- Followed standard operating procedures (SOPs) and Good Laboratory Practices (GLPs) to ensure compliance with regulatory requirements.

- Trained and supervised junior laboratory technicians to ensure proper use of laboratory equipment and safety protocols.

- Maintained accurate and up-to-date records of all laboratory activities.

- Gained extensive bench experience and knowledge of common biological techniques.

Research Assistant – Phagelux Inc., Montréal   **October 2022 – May 2023**

- Assisted in the development of experiments to test hypotheses, resulting in more accurate and reliable research results.

- Developed a research database to store and organize data from the research project.

- Used data visualization tools to present the research findings in an engaging and accessible way.

- Organized and managed laboratory inventory by regularly updating excel spreadsheets.

REFERENCES

Available upon request