Jacob Mish

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TECHNICAL SKILLS

Programming:	Python, Rust, SQL, Javascript/Typescript, PHP/Hack, Go, Java, Swift
Tools:	Databricks, AWS, Azure ML Studio, Firebase, Docker
V-Control:	Git/Github, Azure DevOps, GitLab
Database:	Databricks SQL, PostgreSQL, GraphQL, Microsoft SQL Server, Oracle SQL
Frameworks:	React, React Native, Streamlit, Flask
Visualizations:	Plotly, Matplotlib, Seaborn, Tableau, PowerBI

SOFT SKILLS

Strong communication skills - demonstrated through the ability to convey complex technical information to a non-technical audience through presentations

Collaboration skill - working with others and sharing ideas/feedback to produce effective results efficiently while maintaining a positive environment

RELEVANT EXPERIENCE

Software Engineer — February 2025 - Present
Meta Platforms, Inc. — *Remote*

- Working on Foundations & Monitization for Meta GenAI.
- Develop and maintain UI components using React, enhancing the user experience for data labeling workflows.
- Contribute to backend development in Hack/PHP, optimizing system performance.
- Debug, monitor, and resolve issues to ensure system reliability.
- Write and maintain test cases to improve stability and prevent regressions.
- Collaborate with cross-functional teams to enhance system functionality.

Data Developer — March 2023 - February 2025
Strathcona Resources LTD. — *Calgary, AB*

- Developed a web app saving $350,000 yearly, featuring Azure Single Sign-On authentication, managed group-based permissions, and integration with multiple APIs, centralizing access to diverse tools for enhanced user experience.
- Utilized LLM Transformers to create a Q&A chatbot with contextual knowledge of company HR documentation.
- Utilized various APIs to collect data, automate tasks, and gather insights for business intelligence purposes.
- Designed & developed curated tables from raw data to provide valuable insights for teams across the organization.
- Created automated workflows (ETL's) for efficient data collection, cleaning, and transformation, generating curated data ready for analysis and visualization.
- Optimized cloud compute costs by configuring ideal settings for tasks and improving script runtime efficiency.
- Implemented data validation, transformation, and quality checks to ensure data consistency and accuracy.
- Remained current with industry trends and best practices in data engineering and technologies to continuously improve data infrastructure and workflows.

AI/Machine Learning Consultant — (Contract) October 2023 - May 2024
CircutStream — *Calgary, AB*

- Spearheaded the creation of the capstone project, a sophisticated Discord bot that integrates OpenAI APIs and traditional machine learning models, like recommender systems.
- Collaborated in the development of a comprehensive Machine Learning Pre-University Course, focusing on practical, student-centered learning
- Assisted in the meticulous planning of the course schedule, ensuring a coherent and progressive learning experience
- Played a key role in curating and determining the course content for each session, aligning theoretical knowledge with practical application

Associate Machine Learning Developer (4-Month Contract) September 2022 - December 2022
AltaML *Hybrid / Calgary, AB*

- Implemented tree-based regression algorithms for predicting the permeability of rock core images with an accuracy of 94%, saving the client upwards of $10 million dollars.
- Conducted error analysis to further improve model performance.
- Prepared visualizations and presented weekly updates to clients.
- Developed a Machine Learning pipeline from scratch on Azure.
- Competed in a Microsoft-hosted hackathon, and created an application utilizing Natural Language Processing (NLP) to extract moods from journals.

Undergraduate Researcher December 2020 – February 2022
University Of Calgary *Calgary, AB*

- Published and presented as primary speaker at EAGE Edinburgh
- Used Machine Learning / Convolutional Neural Networks (CNN's) from Python Tensorflow to Detect Near Surface Geohazards from Distributed Acoustic Sensing (DAS) Data
- Utilized signal processing techniques to filter and process raw data
- Worked with AWS cloud computing to store and handle large data volumes
- Built interpretation of results from statistical analysis
- Published in Near Surface Geoscience Conference & Exhibition

OTHER EXPERIENCE

IRIS Intern May 2020 - September 2020
Incorporated Research Institutions for Seismology (IRIS) & University of Miami *Online / Remote*

Medical Office Assistant May 2020 - August 2020
Dr. Noiles & Mish Medical Clinic *Calgary, AB*

Pizza Restaurant Supervisor April 2018 - October 2018
Andaros Pizza *Calgary, AB*

Volunteer January 2014 - December 2015
Youth Central *Calgary, AB*

EDUCATION

University Of Calgary Calgary, AB
Bachelor of Science in Geophysics *May 2022*

- GPA: 3.7/4.0 Last 90 Credits
- Graduated With Distinction
- Elected as Geophysics Representative of the Graduating Class of 2022
- Suncor Energy Emerging Leaders Science Scholarship
- (PURE) Program for Undergraduate Research Experience Award
- Faculty of Science Deans List
- Jason Lang Scholarship

PUBLICATIONS

- Mish, J., Ferguson, R., Mosher, C. (2023). Distributed Acoustic Sensing and Machine Learning: Rockfall Detection at Mt. Meager, B.C. NSG2023 29th European Meeting of Environmental and Engineering Geophysics, Sep 2023, Volume 2023, p.1 - 5 https://doi.org/10.3997/2214-4609.202320030

- Ferguson, R., Mosher, C., Dettmer, J., & Mish, J. (2021). Distributed Acoustic Sensing of daylight on a glacier in Canada: Hotspot Monitoring. NSG2021 27th European Meeting of Environmental and Engineering Geophysics. https://doi.org/10.3997/2214-4609.202120218

- Mosher, C. M., S. Sood, R. J. Ferguson, and Mish, J. Javaseis cloud: A cloud-native framework for seismic io. In 2022 Rice Oil & Gas HPC Conference, page Video Recording, Houston, United States, 2022.