FEMINA SENJALIYA

linkedin.com/in/feminasenjaliya | https://www.feminasenjaliya.com | feminasenjaliya17@gmail.com | (250)-986-3367

WORK EXPERIENCE

Avid Technologies Montreal, CA
RAD Lab ML Research Engineer May 2024
- Conducted comprehensive literature reviews on SOTA audio classification and the CLAP ML model, including evaluations of zero-shot audio classification for tagging and classification use cases on large volumes of unstructured audio data.
- Evaluated and fine-tuned multimodality contrastive learning models for audio tagging and classification, integrating them with large language models for natural language audio search and descriptive audio pipelines.
- Leveraged design thinking and stakeholder input to optimize data products, defining critical metrics to drive product success.

ASL Environmental Sciences (In alliance with Mitacs and NSERC Canada) Victoria, CA
Computer Vision Researcher (Internship) Nov 2022 - April 2024
- Investigated deep learning image classification networks and developed semi-automatic annotation algorithms using classical computer vision for identifying sea surface conditions and underwater phenomena in acoustic data.
- Employed deep learning models to derive innovative solutions for client needs by profoundly comprehending complex datasets and implementing rigorous testing protocols.
- Applied data mapping, ETL, and integration techniques to efficiently manage and transform large Arctic and Pacific underwater acoustic datasets for deep learning research.

Archipelago Marine Research Victoria, CA
Software Developer - AI Features May 2023 - Sept 2023
- Designed and developed real-time fish detection algorithms achieving 84% accuracy with video data from long-line fishing, and led the iterative development of a data annotation system, enhancing data collection efficiency by 70%.
- Applied requirement engineering techniques to optimize algorithm performance and supported AI feature initiatives.
- Managed and governed data throughout project lifecycles, leveraging combination of Waterfall and Agile methodologies.

Crest Data Systems LLP Ahmedabad, IND
Site Reliability Engineer Jan 2021 - Jul 2021
- Facilitated project team for software development, QA, SRE, and support to deliver technology solutions in the field of Data Analytics. Created informative data visualizations to communicate complex findings effectively.
- Solved customer requirements and performed multiple engineering roles as needed for the project, serving 5+ clients.
- Effectively managed and manipulated data using SQL Server, Amazon DynamoDB, and other relational databases.

EDUCATION

University of Victoria, Department of Electrical and Computer Engineering Victoria, CA
Master of Applied Science in Electrical and Computer Engineering (Thesis) April 2024
Gujarat Technological University, GCET Ahmedabad, IND
Bachelor of Engineering in Computer Engineering July 2021

SKILL SUMMARY

Programming languages: C, C++, JAVA, R, Python, MATLAB
Frameworks, libraries & tools: Scikit, Tensorflow, Keras, D3JS, GIT, AWS, SQL, PyTorch, OpenCV, NLTK, Visual Studio
Technologies: Computer Vision, Data Science, Deep learning, Machine learning, Data Analytics, Medical Image Processing, NLP, HCI, Linux, LLM

RESEARCH PUBLICATIONS

IEEE/CVF Conference on Computer Vision and Pattern Recognition (PBVS) June 2024
Deep Learning-Based Identification of Arctic Ocean Boundaries and Near-Surface Phenomena in Underwater Echogram
- Presented innovative deep learning-based method for automatic identification of sea surface boundaries and near-surface phenomena in Arctic Marine Environments, leveraging multi-frequency echosounder data. *(Accepted)*

IEEE/CVF Conference on Computer Vision and Pattern Recognition (PBVS) June 2023
Detecting Underwater Discrete Scatterers in Echograms with Deep Learning-Based Semantic Segmentation
- The paper reports on an exploratory study of the automatic detection of discrete scatterers in the water column from underwater acoustic data with DL networks.

ICES Fisheries and Plankton Acoustic Symposium Jan 2023
Computer Vision-based Echogram Annotation Methods for Acoustic Classification with Deep Learning Systems
- Developed semi-automatic methods for generating data ground truths for efficiently feeding to DL models, tailored to various targets' characteristics and research objectives in data analysis tasks.

PROJECTS

Online open camera examination software with analysis & Surveillance
- Developed a web application that eliminates the proctor's dependency. The deep learning model detects possible misconduct during the examination and reports it to the examiner.

Information visualization of youth charged with crime: Most common offenses in BC
- Employed information visualization concepts to develop interactive visualizations, enhancing data analysis.

Exploring mental health discourse on Reddit: A text analysis
- Employed data science and NLP concepts for topic modeling, revealing prevalent themes and sub-topics in text data from stress and anxiety-related subreddits, offering insights into shared public concerns.