

With **over 5 years** of experience in machine learning, engineering, and automation, and holding **double master's degrees** in machine learning, I have extensive hands-on expertise in deploying and productizing ML models. Additionally, I have conducted research in Natural Language Processing using Reinforcement Learning to advance the state-of-the-art.

Experience

Korbit AI, Machine Learning Specialist | Montreal, CA Mar 2024 - Present

Skills: PyTorch, RAG, LangChain, Prompting, Natural Language Processing (NLP), SQL, Deployment

- Developed and deployed dynamic prompting using vector-db for a domain-specific response using Gen-AI
- Using LLM, developed an actionable classifier with a 91% F1 score to identify meaningful issues and deployed it in production .

Huawei Technologies - Noah Ark's Lab, AI Researcher-Intern | Montreal, CA Mar 2023 - Sep 2023

Skills: PyTorch, Natural Language Processing (NLP), RAG, LangChain, Linux, Research Skills, Distributed Training

- Implemented large language model- LLaMA finetuning, merging multiple open-source datasets to enhance the model.
- Developed a Decision system by breaking down questions into subquestions to collect reliable information.
- Improved accuracy by 5% compared to the existing system with better runtime.

Hydro Quebec, AI Researcher-Intern | Montreal, CA May 2021 - Jan 2022

Skills: Python, Neural Network, Problem-Solving, Team Collaboration

- Implemented CNN Model, and OpenCV approaches for Dial Inspection, cross-verifying the outputs for reliability.
- Involved in synthetic data generation, pre-processing, model optimization, and hyperparameter tuning.
- Achieved a remarkable test set accuracy of 95% and deployed in production using docker.

Mila - Quebec AI Institute, AI Research Intern | Montreal, CA Sep 2021 - Sep 2022

Skills: Huggingface, Distributed Training, PyTorch, Leadership, Event Management, Public Speaking

- *Language Model as Task Solver* - Developed language models (GPT-2) incorporating human gameplay, linguistic priors, and improved action candidates based on game history.
- *Interactive Learning in Text-Based Games Using Reinforcement Learning* - Implemented Reinforcement Learning algorithms to learn optimal Q-values using DQN, where the action space was defined by sentences in natural language.

Wipro Technologies, Machine Learning Engineer | Bangalore, India Oct 2017 - July 2020

Skills: SQL, ETL processes, Tableau, Healthcare Data, Critical Thinking

- Built complex SQL queries to retrieve, manipulate, and aggregate healthcare data to handle large datasets.
- Achieved a 50% reduction in manual effort by automating data analysis during source-to-target migration.
- Developed captivating web dashboards using Tableau, resulting in a 35% improvement in data loading time.

Education

Grade: 4.0 , **MS by Research in Machine Learning**, Polytechnique Montreal, Mila - Quebec AI Institute | Montreal, Canada 2022-24

Grade: 3.85, **MS in Computer Science and Machine Learning**, University of Montreal, Mila | Montreal, Canada 2020-22

Courses: ML | DL | Data Science | Reinforcement Learning | Scaling Law | Vision & Language | NLU with Deep Learning

Selected Publications

- **Arjun VS**, P Parthasarathi, J Rajendran, S Chandar. [Language Model-In-The-Loop: Data Optimal Approach to Learn-To-Recommend Actions in Text Games](#), ICML 2024 Workshop on Foundation Models in the Wild.
- Pranshu Malviya*, **Arjun VS***. [Feature Diversity in Self Supervised Learning](#), Conference on Lifelong Learning Agents-Workshop.
- H Nekoei*, **Arjun VS***, J Rajendran, M Liu, S Chandar [Multi-agent text-based Hanabi challenge](#), ICLR 2024 - Generative Models for Decision Making Workshop.

Leadership

Lab Manager, Chandar Research Lab, Mila - Quebec AI Institute 2021-2024

Local Chair, Conference on Lifelong Learning Agents - CoLLAs 2023 2022-2023

Toastmasters International, Non-Profit Organization for public speaking Apr 2018 - Present

Teaching Assistant, INF8245E, Machine Learning Sep 2021 - Dec 2021

Achievements & Awards

Microsoft Diversity Award, [\$4,000 CAD] 2021

University of Montreal-Excellence Scholarship, [\$9,500 CAD per year] 2020-2022

Ecole Polytechnique-Excellence Scholarship, [\$ 17,000 CAD per year] 2022-2024

Best Project Award, Cognizant 2017

Best Student Award, Indian Society of Technical Education (ISTE) 2016

Innovation Award, Innovation and Entrepreneurship Development Cell (IEDC)-Government Of India 2016