

With **over 6 years** of experience in machine learning, engineering, and automation, and holding **double master's degrees** in machine learning at **Mila-Quebec AI Institute**, I have extensive hands-on expertise in deploying and productizing ML models. On top of that, 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 GenAI
- Using LLM, developed an actionable classifier with a 91% F1 score to identify meaningful issues and deployed it in production.

### Noah Ark's Lab-NLP Research, 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, Data 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**, Mila - Quebec AI Institute, McGill, Polytechnique Montreal

Sept 2022- Aug 2024

Grade: 3.83, **MS in Computer Science and Machine Learning**, Mila- Quebec AI Institute, University of Montreal

Sept 2020- Aug 2022

**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.
- H Nekoei\*, **Arjun VS\***, J Rajendran, M Liu, S Chandar [Multi-agent text-based Hanabi challenge](#), ICLR 2024 - Generative Models for Decision Making Workshop.
- Pranshu Malviya\*, **Arjun VS\***. [Feature Diversity in Self Supervised Learning](#), Conference on lifelong learning Agents Workshop, 2023.

## Leadership

**Lab Manager**, Chandar Research Lab, Mila - Quebec AI Institute

Sept 2021- Feb 2024

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

Sept 2022- Aug 2023

**Toastmasters International**, Non-Profit Organization for public speaking

Apr 2018 - Present

**Teaching Assistant**, INF8245E, Machine Learning

Sept 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