R&D programs

FALL 2022 COHORT

AI LAUNCH LAB

MARIANOPOLIS AI CLUB

Dawson COLLEGE

ABOUT R&D PROGRAMS

The 8-week-long fall cohort is part of R&D programs by AI Launch Lab and Dawson College.

These virtual workshops will be given in English and will take place on Saturdays for a duration of 2-3 hours from **September 24th** to **November 19th.**

FALL COHORT SUMMARY

Week 1:

- Introduction to self-learning tools (Korbit-optional)
- Introduction to AI and Machine Learning

FALL COHORT SUMMARY

Week 2-8:

- Through workshops covering a wide range of AI topics like data manipulation, fundamental machine learning models, deep learning, reinforcement learning, and other advanced topics, you will have the opportunity to learn about AI and how to apply it

FALL COHORT SUMMARY

Week 2-8:

- Using your new AI skills and further independent research, you will work on various weekly tasks
- Along the way, you will have support from AI specialists to help guide you in exploring new tools

FALL COHORT SUMMARY

Week 2-8:

- At the end of the program, you will have the opportunity to compile and present your work and learnings. You will leave with a fantastic portfolio!

CURRICULUM

1. Introduction to Machine Learning

- What is AI?
- Difference between AI and ML
- Overview of ideas in ML

2. Python Crash Course - Part 1

- Variables
- Expressions
- Functions
- Data Structures 1

CURRICULUM

3. Python Crash Course - Part 2

- Data Structures 2
- Classes & Objects
- Exception Handling
- Files

4. Working principles of Neural Networks

- Working of an artificial neuron
- Training setup
- Evaluating the performance of neural networks

CURRICULUM

5. Neural Network Architectures & Supervised Learning

- Architectural attributes of neural networks
- Fundamental Architecture:
- Feedforward (MLP)
- Ingredients of Supervised Learning

6. More Architectures: Convolutions, Recurrence and Transformers

- Advanced Architectures: Feedforward (CNN, Transformer), Recurrent (RNN)
- Applications of these architectures
- Case Studies: VGGNet, GPT-2

CURRICULUM

7. Unsupervised Learning & Generative Models

- Dimensionality Reduction
- Clustering
- Generative Models: GANs
- Case Study:
- BigGAN

CURRICULUM

8. Practical Aspects of AI & Case Studies [Could change]

- Using neural networks in a full-fledged application
- Tasks involved in building a practical AI System
- Interactive AI Systems
- Reinforcement Learning
- Case Study: DALL-E

9. Ethics in AI

IMPORTANT DATES

Orientation 1
Saturday, September 17, 2022, at 12 PM EST

Orientation 2
Monday, September 19, 2022, at 5:30 PM EST

Fall Cohort Start Date
Saturday, September 24, 2022, at 10 AM EST

Fall Cohort End Date
Saturday, November 19, 2022, at 10 AM EST

Applications for the R&D Programs Fall 2022 Cohort is open now.

APPLY NOW

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FOR MORE INFO, VISIT OUR WEBSITE:

https://launchlab.ai/rd-program/

https://www.dawsoncollege.qc.ca/ai/dawsonai-ai-launch-lab/