PRODIGAL AI Training Module

Introduction

Welcome to the PRODIGAL AI training program. This module is designed to provide comprehensive training on critical technical topics including AWS, Crypto Stock Trading, Database Operations, Web Scraping, Go-Lang, and Web3. Each section contains curated resources, hands-on exercises, and project-based learning to ensure practical understanding.

1. Training on AWS

Topics Covered

- Setting up WSL on Windows
- Writing and packaging AWS Lambda functions
- Deploying AWS Lambda functions

> https://drive.google.com/file/d/1s0AWPJD53W2edfeIM7NpsxhCgC5Jdv-u/view?usp=sharing

2. Crypto Stock Trader

Topics Covered

- Basics of Algorithmic Trading
- Trading strategies using Machine Learning
- Using LLM agents in trading
- Backtesting and performance evaluation

Basics of Algorithmic Trading

> https://www.researchgate.net/publication/345319146_Algorithmic_Trading_and_Strategies

First 9 Chapters of:
>
https://notes.yeshiwei.com/_downloads/2ce792aff8596ea9453a9714f39d957a/Machine_Learning_for_Algorithmic_Trading_Predictive.pdf

Trading using LLM Agents
- ○ https://medium.com/@brett_17026/llms-and-algorithmic-trading-0df34383187b
- ○ https://forum.numer.ai/t/using-llms-to-create-trading-signals/6374

Backtesting Engine for Automated Trading
- ○ https://medium.com/@nazemi.shayan/a-fast-backtesting-method-for-algorithmic-trading-in-python-de78bb9262a7
- ○ https://catalogimages.wiley.com/images/db/pdf/9781118460146.excerpt.pdf

3. Connecting to DB and Performing CRUD Operations

Topics Covered

- Database connectivity
- CRUD operations using scripts

o https://drive.google.com/file/d/1E4zyIQipNqJN6styorRt3bE7xe6kJPzu/view?usp=sharing

o https://drive.google.com/file/d/1O7Gyr2UfUKdw8GdYxiuObJfNMz3YG8As/view?usp=drive_link
(DB connection scripts)

4. PG Admin Training

Topics Covered

- Using PG Admin for database management
- Advanced features and techniques

o https://drive.google.com/file/d/1h5vq_rhqOGHke8tJ-K7k2qwYAPs8LFKT/view?usp=sharing

5. Web Scraping

Topics Covered

- Basics of web scraping
- Polling and backfilling techniques and practical website scraping projects

a. What is webscraping

❖ https://www.geeksforgeeks.org/what-is-web-scraping-and-how-to-use-it /
❖ https://www.geeksforgeeks.org/implementing-web-scraping-python-bea utiful-soup/
❖ https://drive.google.com/file/d/1oNqq5UDmqNwgTTo3eIhaakkRSvAc8_d90/view (How to start with web scraping, training from scratch)

b. Quick understanding about, what is polling and backfilling techniques in web scraping

● Polling is the process where, at the time of scraping the website, if any new articles are added to the page, we check by scraping the first and second pages to detect new articles. This ensures we capture any newly published content.
● Backfilling is the process of adding the newly discovered articles into the database. This can be done using a trigger, which automatically inserts the new articles into the database whenever new content is detected during polling.
● https://drive.google.com/file/d/1AuT6RlZ1qQ_NdDKaGVFtvqCkI2Qh1Xc9/ view

c. Project on Web Scraping

You are now ready to begin scraping websites, so let's get started. The task is to scrape two websites that feature articles on Web3. Begin by scraping the categories, each of which contains various article titles. For each article, scrape the full content and any associated comments

● https://forum.arbitrum.foundation/
● https://gov.optimism.io/

 Store the scraped data in a local MySQL database. Please design the necessary tables based on the required fields, including categories, article titles, article content, and comments for each article.

6. Go-Lang Training Module

Topics Covered

- Introduction to Go-Lang
- Building CRUD APIs in Go-Lang

> ▶ Golang Tutorial for Beginners | Full Go Course

> ▶ Creating a JSON CRUD API in Go (Gin/GORM)

> ▶ JWT Authentication in Go (Gin/Gorm)

7. Web3 Training Modules

Topics Covered

- Fundamentals of Web3
- Building and deploying smart contracts
- Developing dApps
- https://www.youtube.com/playlist?list=PL2-Nvp2Kn0FPH2xU3IbKrrkae-VVXs1vk

- ▶ JavaScript Crash Course For Beginners

- Web3.py - YouTube

- ▶ Monolithic vs Microservice Architecture: Which To Use and When?

- ▶ What is Serverless? | Serverless Vs Monolith | AWS Lambda

- ▶ Blockchain Full Course - 6 hours | Blockchain Tutorial | 3 courses in 1 | Hindi | Co…

- ▶ TypeScript Crash Course

- ▶ 🚀 TypeScript Crash Course: Master the Essentials in One Video! Ignite Your Web…

- ▶️ Create a Typescript Library | SDK | Node JS

- ▶️ How to use Poetry to Manage Python Dependencies and Publish Packages

- ▶️ Ethers.js Course | Ethereum Library | Web3.js vs Ethers.js | Code Eater - Blockcha…

- ▶️ Using wagmi package with React/Next.js #web3 #ethereum #npm

Conclusion

This training module is structured to ensure comprehensive coverage of essential skills. Each section provides foundational knowledge and practical experience to enable employees to excel in their respective tasks. By the end of this program, participants will have gained proficiency in critical areas essential for their roles at PRODIGAL AI.

For further understanding, feel free to refer to the YouTube resources provided in each section or explore other sources. If you have any questions or need support during the training, please reach out to us at **karthik@prodigalai.com.**