

CLOUD COMPUTING ADVANCE



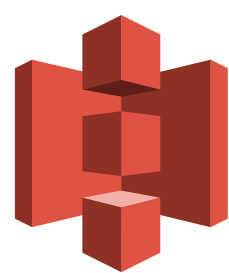
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1 PYTHON

- Big Picture
- Pycharm
- Package Manager (PIP/Anaconda)
- Scaler Types, Operators and Control Flow
- Introducing Strings, Collections and Iteration
- Modularity in Python
- Object Oriented Programming
- Built-In Collections
- Exception Handling
- Iterations and Iterables
- Classes
- File IO and Resource Management
- Multithreading
- Beyond Basic Function
 - Callable Instances
 - Classes are callable
 - Conditional Expressions
 - Lambdas
 - Detecting Callable Objects
 - Extended Formal Argument Syntax
 - Extended Call Syntax
 - Forwarding Arguments
 - Transposing Tables
- Closures and Decorator
- Advance Properties and Class Methods
- Advance String Methods
- Advance Numeric Types
- Advance Iterables and Iteration
- Advance Collection and Exception Handling
- DateTime Types
- Inheritance and Subtype Polymorphism
- Junit Testing
- Virtual Environment
- Database
- REST Api
- Flask
 - Rest API Implementation
 - Storing Resources in a SQL Database
 - Simplifying Storage
 - Understanding Model Template View Pattern
 - Creating and Processing Webforms with Flask
 - Creating Model Layer for Flask
 - Flask Users, Sessions and Authentication
- Case Study
 - A Game Of Chance
 - Movie Store (using Collections)
 - Movie Store (using Database)
 - Build a static file generator with python
 - Add Extension to a Static Site Generator
 - Build a Personal Budget Report with Python Collections and Iterables
 - Decoding Sensor Data using Python
 - Build Your Own CLI Planner App using python abstract Base classes
 - Control drone from your laptop



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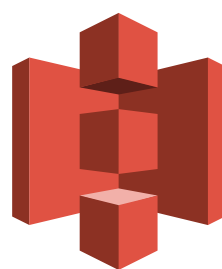
2 DATA STRUCTURES

- Introduction to Data Structure
- Big O Notation
- Essential Concept
- Memory and Logarithm
- Array
- Recursion
- Linked List
- Stack
- Queue
- Hash tables
- Trees
- Heaps
- Tries
- Graphs
- Searching Algorithm
- Sorting Algorithm
- Dynamic Programming



3 AWS

- Introduction to Cloud Computing
- IAAS/PAAS/SAAS
- Introduction to AWS
- Setting Up Account
- Region and Availability Zone
- Identity and Access Management
- AWS VPC and Networking
- AWS S3
- Elastic Compute Cloud (EC2)
- AWS RDS
- AWS SNS
- AWS Cloudwatch
- AWS API Gateway
- AWS Loadbalancer



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4 PROJECTS

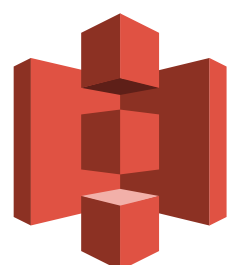
- Build smart door lock based on Face Recognition
- Control Drone through Hand Gesture
- Build Your Personal Assistant like Jarvis
- Create your own emoji with Python
- Sentiment Analysis System
- Digit Recognition
- Housing Prices Prediction Project
- Stock Price Prediction
- Fake News Detection
- Handwritten Character Recognition
- Credit Card Fraud Detection
- Customer Segmentation
- Speech Emotion Recognition
- Automatic License Number Plate Recognition System
- Image Segmentation
- MoneyBall: the power of Sports Analytics
- Election Forecasting: Predicting the winner Before any Votes are Cast
- Predictive Diagnosis: Discovering Patterns for Disease Detection
- Boston House Pricing Prediction Project
- Build a Movie Recommender
- Loan Eligibility Prediction
- Music Recommendation System
- Rating Review System based on Text
- Summary Generator
- Many More...



5 ASSIGNMENTS



- Bangles
 - In Bagels, a deductive logic game, you must guess a secret three-digit number based on clues. The game offers one of the following hints in response to your guess: “Pico” when your guess has a correct digit in the wrong place, “Fermi” when your guess has a correct digit in the correct place, and “Bagels” if your guess has no correct digits. You have 10 tries to guess the secret number.
- BITMAP MESSAGE
 - This program uses a multiline string as a *bitmap*, a 2D image with only two possible colors for each pixel, to determine how it should display a message from the user. In this bitmap, space characters represent an empty space, and all other characters are replaced by characters in the user’s message. The provided bitmap resembles a world map, but you can change this to any image you’d like. The binary simplicity of the space-or-message-characters system makes it good for beginners. Try experimenting with different messages to see what the results look like!
- BOUNCING DVD LOGO
 - If you are of a certain age, you’ll remember those ancient technological devices called DVD players. When not playing DVDs, they would display a diagonally traveling DVD logo that bounced off the edges of the screen. This program simulates this colorful DVD logo by making it change direction each time it hits an edge. We’ll also keep track of how many times a logo hits a corner of the screen. This creates an interesting visual animation to look at, especially for the magical moment when a logo lines up perfectly with a corner.
- CAESAR CIPHER
 - The Caesar cipher is an ancient encryption algorithm used by Julius Caesar. It encrypts letters by shifting them over by a certain number of places in the alphabet. We call the length of shift the key. For example, if the key is 3, then A becomes D, B becomes E, C becomes F, and so on. To decrypt the message, you must shift the encrypted letters in the opposite direction. This program lets the user encrypt and decrypt messages according to this algorithm.



ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING ADVANCE



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5 CONTINUE...



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