Code Unnati

Day-1

Orientation

https://www.mohawkcollege.ca/future-ready-toolkit/orientation

Oobjective

- Introduction to program
- Course details
- Module wise summary
- Capstone project guidelines
- Employability skills outline

Introduction

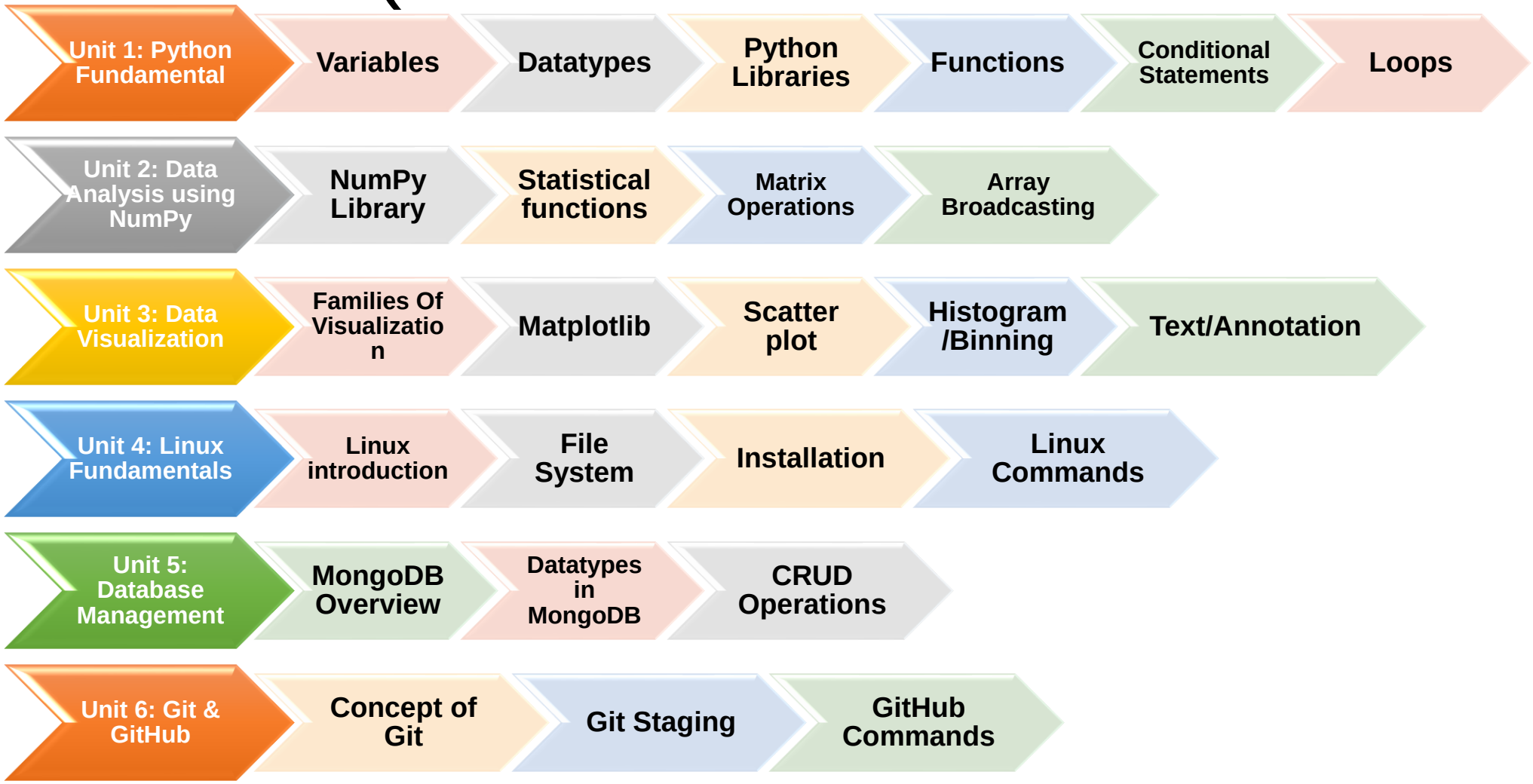
- Code Unnati is an IT skills development initiative aligned with the Digital India and Skill India initiatives of the Government of India
- It is a collaborative effort of SAP, CSR wings of different corporate companies, and non-profit organizations
- Collaborated with 31 colleges in Gujarat and developed Centers of Excellence to impart skills in the domain of Industry 4.0

Reference : https://pure-good-heroes.fandom.com/wiki/WALL-E

Course Details

- 210 Hours of Classroom sessions
- 4 Modules with one elective course
- Practical project work followed by Capstone Project
- Intercollege showcase events
- Linkage for job placement/entrepreneurship through incubation support.
- Self Paced Learning Modules of SAP

Module 1(Foundational Skills for IR 4.0)



Module 2(Internet of Things)

- IoT Architecture
- Industrial IoT
- Future of IoT

Unit 1: IoT Fundamentals

- Electronics Components
- Logic Gates
- Electronics Signals

Unit 2: Electronics Concept

- Types of Sensors
- Characteristics of Sensors
- Types of Actuators

Unit 3: Sensors and Actuators

- Networking Devices
- IoT WAN
- Multi-homing
- IoT Protocol Stack

Unit 4: Networking for IOT

- Introduction to Raspberry Pi
- Install Raspbian OS
- Configure GrovePi+ Kit

Unit 5: Raspberry Pi

Module 3(Machine Learning)

Unit 1: Data Manipulation with Pandas

- Pandas Series, Data Frame
- Reading/Writing Data from files

Unit 2: Python GUI - Tkinter

- Widgets
- Geometry Manager

Unit 3: Building Machine Learning Models

- Supervised Learning
- Unsupervised Learning
- SciKit Learn Library

Module 4(Computer Vision & Edge Computing with Open VINO toolkit)

Unit 1: Deep Learning

- What is Deep Learning?
- Concept of Neural Networks
- Neurons, Weights and Bias
- Forward and Backward Propagation

Unit 2: Operational Deep Learning

- Gradient Descent
- Cross Entropy vs MSE
- Tensorflow 2.0 and Keras API
- What are Tensors?

Unit 3: Computer Vision Basics

- Image Fundamentals: Pixels
- Grayscale vs Color
- Computer Vision – With Open cv and Keras
- Convolutional Neural Network

Unit 4: Computer Vision with Open VINO

- Introduction OpenVINO
- Open VINO Toolkit Components
- Working with Model Optimizer
- Optimizing TensorFlow, Keras and PyTorch model using Model Optimizer (P)
- Exploring Model Zoo for PreTrained Model
- OpenVINO™ Deep Learning Workbench

Industry Specific Modular Offering

- ERP essentials
  - ➢List of Basic ERP Modules and their Functions
  - ➢SAP ERP components
  - ➢Technical and Function ERP modules

Industry Specific Modular Offering

Elective module

Elective 1:

SAP HANA – Big Data Processing and Analytics

Elective 2:

SAP ABAP - SAP Enterprise Programming

Elective 3:

SAP BW – Business Warehouse

Elective 4:

SAP MM – Manufacturing material Management

Elective 5:

SAP PP – Production and Planning

Capstone Project Guideline

Make a team of 3 or 4 members from your batch.

Select a problem statement consisting at least one of the following technologies in solution.

- Machine Learning
- IOT
- Computer vision
- SAP ERP modules

Activity	Weightage
Capstone Project – Phase-1	15%
Capstone Project – Phase-2	15%
Capstone Project – Phase-3	15%
Capstone Project – Phase-4	15%
Final Project review	40%

Employability Skills

- Effective Communication Skills
  - Elements of Spoken English skills
  - Listening Skills
  - Reading Skills
  - Writing Skills
- Group Discussion/Personal Interview Skills
  - Know Yourself
  - Public Speaking
  - Essential interview skills
- How to create Digital Profile
  - Resume Building
  - LinkedIn Profiling

Rapid Prototyping Camp

- Prototyping camp and project exhibition

- Best project ideas; awards and recognition at nodal center

Thank You!!!!

Happy Learning