Skills Bootcamp in Software Development using Python and AI

12 week - Part-Time

Overview of the course:

Our Skills Bootcamp in Software Development using Python and AI is a 12-week, part-time course, running 2 days a week, 09:30am - 15:00pm.

It focusses on the principles of coding and applies it to both Python front-end web development and back-end database development with a focus on website functionality.

We look at software development methodologies and how these are used in industry. Learners also get the opportunity to implement these in a group project, and solo project.

Mapped to Level 3 - you will learn to create websites, Python games and find out what it's like working in the Tech industry. You will learn intermediate programming skills covering complex concepts for application development using Python.

You will also learn effective use of Large Language Model applications such as ChatGPT as a development tool.

Eligibility:

This Bootcamp is aimed at anyone wanting to gain or enhance their software development skills and wants to gain valuable experience of the technologies and tools businesses are using to build effective Python web applications.

- 19+
- Employed
- Unemployed
- Self employed

Funded by UK Government

Details:

- **Part-time, remote course, running 2 days a week over a 12-week period, 09:30am - 15:00pm**
- **120 Hours of hands on Software Development using Python and AI experience**
- **Hear from Employer speakers during the course**
- **Funding available dependant on eligibility**
- **Guaranteed interview if you are unemployed with hiring employer upon completion**

What is covered?

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Week One (2 days)

- Induction
- Introduction to Coding course
- Ice breakers
- Set up Python
- Introduction to Visual Studio Code as an IDE and the terminal
- Data, variables, properties, and methods in Python
- Python strings: properties and methods.

Week Two (2 days)

- Inputs, casting, and logical/arithmetic operators in Python
- Selection; IF ELIF statements, comparison operators, dictionaries, logical operators
- Level up python challenges
- Create random generator algorithm in Python
- Lists, list methods in Python, storing data, accessing, and mutating data in a list.

Week Three (2 days)

- Iteration: 'for' and 'while' loops
- Introduction to functions; simple functions, arguments, parameters
- Examine variable scope related to functions, loops, etc.

Week Four (2 days)

- Examine the differences between built-in and imported Python libraries
- To use package managers to import libraries for effective code functionality
- Rock Paper Scissors Python game; flowcharting, Pseudocode, and code-along demonstration.

Week Five (2 days)

- AI For Code Assist
- Introduction to Large Language Models AI (LLM) and its capabilities as an AI powered large-language model
- Integrate into practice
- Code Along Practice
- Group discussions and reflection
- Group activities on LLMs ongoing usage for this course
- Summarise benefits of integrating LLMs into Python routines
- Practical applications and tutorials on how to integrate LLM AI into solutions

Week Six (2 days)

- Python – Level Up
- Increase your Python programming knowledge with this hands-on coding unit which covers: not and in operators, truthy/falsy values in code and the Dictionaries data type
- We examine different coding techniques, list comprehension and error handling methods in Python.

Week Seven (2 days)

- Introduction to Classes and Object-Oriented Programming (OOP)
- Introduction to OOP team challenge and project - creating a mini-quiz web app, in Python
- Explain Trello for group collaboration project management.

What is covered?

Week Eight (2 days)

- Fundamentals of how the web works
- HTML – elements, tags and best practices
- CSS – selectors, properties, Flexbox, transitions and animations
- Simple webpage structure (navbar, banners, hero image, sections, footer, etc.

Week Nine (2 days)

- Introduction to Flask – installation, basic syntax and file structure
- Create a base application using HTML templates (jinja)
- Refine the look of the HTML with CSS and Flexbox
- Troubleshooting errors.

Week Ten (2 days)

- Understand a basic database structure to help with software development applications.
- To use an ORM (Object Relation Mapper) as a bridge between a database and coding objects.
- Querying a database, filtering, dealing with Large Datasets, SQL statements
- Creating, Reading, Updating and Deleting data from a database (CRUD operations) operations in it. (Create Read Update Delete).

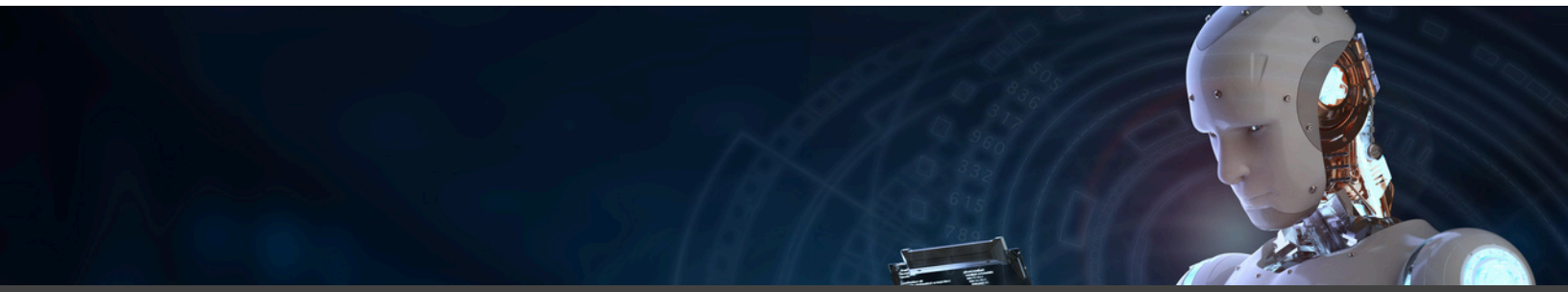
Week Eleven (2 days)

- Installation of external libraries to help to connect to a database
- Querying a database, filtering, dealing with Large Datasets, SQL statements
- Creating, Reading, Updating and Deleting data from a database (CRUD operations).

Week Twelve (2 days)

- Recap of the Python course and the personal journey of the learners
- Create a group presentation to showcase this learning journey and present findings.

Enquire today!



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