By Qwasar

Web4Jobs by Qwasar Data Science Program
Full Time

Course Packet

Introduction

Web4Jobs by Qwasar Silicon Valley offers a competency-based certification program in the Data Science field. The Web4Jobs by Qwasar Data Science program will teach students the scope of skills necessary to become a data scientist. This program focuses on end-to-end data management and use from collection to business decision-making, as well as strong fundamentals in data structures and algorithms. Learners will cover fundamental computer programming concepts including arrays, strings, algorithms, pointers, hash data structures, and software architecture, before moving on to the fundamentals of data analysis and machine learning, data collection, cleaning, storage, analysis, display/visualization, and real-world use. We cover Python, Panda, Jupyter, Keras, and Tensor Flow, and projects become significantly more complex using large data sets that must also be optimized for implementation costs.

Learners are also expected to complete 30-40 technical interview role plays to prepare for real job interviews, and undergo resume and cover letter reviews similar to peer code reviews. Overall, our Data Science program is designed to train learners to Silicon Valley standards in data science and engineering with an emphasis on structured problem solving, critical thinking, and extensive preparation for meeting employer demands for entry-level jobs.
Students will learn...

- Python, Pytorch, R, SQL and noSQL databases
- Splunk, Tableau, data visualt
- Front-end and back-end programming,
- Ruby on Rails,
- Javascript,
- Advanced SQL database knowledge,
- RESTful APIs, software architecture,
- Structured problem solving and debugging,
- Data structures and algorithms
- SEO
- SQL, SQLite, and databases
- Wordpress, Shopify, and website CMSs
- Cloud-hosting and app deployment
- Extensive use of industry-standard tools such as Git, IDEs, and terminal commands.

What to Expect

Remote training program
Students will gain experience building and developing software. By the time students complete the program they will earn an industry-standard certification in Data Science from Web4Jobs by Qwasar.

No tests, only projects.
Each focus of this program will involve completing projects in teams as well individually to ensure students are learning and applying their knowledge.

Build apps and sites with groups and on your own
This program focuses on end-to-end data management and use from collection to business decision-making, as well as strongfundamentals in data structures and algorithms. Work in groups and complete individual portfolio projects.

Showcase projects to recruiters
Students will showcase approximately 5 to 20 projects representing thousands of lines of code for employers and interviews.

20-hour-per-week time commitment
Students will need to devote 20 hours a week minimum in order to fully learn the content necessary to pass the course and become a data scientist.

Interview training
As part of this program, students will complete technical interviews to prepare for job applications. Students will be guided on how to navigate challenging technical interviews including whiteboard coding.

Write ~30K lines of code across 20 projects
On average, students will write about 30,000 lines of code as they complete exercises, software projects, and coding challenges throughout the program. This high-quantity coding means students develop confidence in their code and applied software architecture design and implementation experience.

Course meeting schedule

Level	Season	Project Name	Description
LEVEL 1 – NOOB (3 MONTHS)	Preseason	Bootcamp Python	Scripting, variables, functions, arrays, classes, strings, sorting, data structures, basic algorithms, and scraping data
	Preseason	My DS Babel	Translate data structures from SQL to CSV and CSV to SQL
	Preseason	My Select Query	Return an array of strings from a CSV file with two arguments
	Preseason	My NBA Game Analysis	Creating a function that receive an array of plays and returns a summary of plays that happened in a given NBA game, then print the function in a readable manner
	Season 1	Bootcamp C	The coding environment, using the terminal functions, loop statements, types, variables, pointers and strings, arrays and pointers, memory allocation/structures, basic and more complex algorithms, a nested loop with if statements, advanced shell, pipe, multiple commands, 2D arrays and strings
	Season 1	PrintF	Unlimited arguments, conversion between types and bases

LEVEL 2 - APPRENTICE	Season 2 Data Science	My Mr Clean	Collect data, store data, format or standardize formatting of said data, basic statistics on the data (generating more data), basic data filtering or cleaning, basic data visualization
	Season 2 Data Science	Bootcamp Data Science	Jupyter, Jupyter in a terminal, NumPy (library for data analysis), arrays and 2D arrays, sorting, arranging/ordering, Pandas (library for data manipulation and analysis), Matplotlib (library for plotting), model evaluation
	Season 2 Data Science	My Open the Iris	The first end-to-end project: loading, summarizing, visualizing, evaluating algorithms, and making predictions, applied to the dataset of the flower Iris
	Season 2 Data Science	My First Scraper	Use python libraries and Beautifulsoup to return a CSV with actionable data including requesting, extracting, transforming, and formatting data from an HTML repository
	Season 2 Data Science	My Tu Verras	Foundational data analysis concepts, data visualization and evaluation, data cleaning, correlation coefficients, and prediction
	Season 2 Data Science	My M and A	Multi-source data merge and integration, data storage, data transformation, CSV and SQL databases
	Season 2 Data Science	My Convex Optimization	Performance measure, convex functions, gradient descents, simplex algorithm, finding/building a solution that's the most optimal/optimized
	Season 2 Data Science	My Linear Regression	Least square regression, linear regression, gradient descent for linear regression, convergence rate
	Season 2 Data Science	My MobApp Studio	Produce data visualizations and a report on the mobile app market, categories, and any related or useful data related to building a new mobile app
	Season 2 Data Science	My Netflix	Recreate the Netflix TV/film recommendation system
LEVEL 3 – CONFIRMED (3 MONTHS)	Season 3 Data Science	Drive Me Crazy	Given the description of a city plan and planned paths for all cars in that city, you will be optimizing the schedule of traffic lights to minimize the total amount of time spent in traffic, and help as many cars as possible reach their destination before a given deadline
	Season 3 Data Science	A Fool's Fraud	Companies that involve a lot of transactions with the use of cards need to find anomalies in the system. Build a fraud detection model for a credit card company. Use the transaction and their labels as fraud or non-fraud to detect if new transactions made by the customer are fraud or not.
	Season 3 Data Science	Coleridge Initiative	The Coleridge Initiative is a not-for-profit that has been established to use data for social good. Much of the information about data necessary to inform evidence and science is locked inside publications. you'll use natural language processing (NLP) to automate the discovery of how scientific data are referenced in publications. Utilizing the full text of scientific publications from numerous research areas gathered from CHORUS publisher members and other sources, you'll identify data sets that the publications' authors used in their work