Career Accelerator Program

About Azubi Africa

Azubi Africa's mission is to skill Africa's untapped & under-utilized talent and to train them for some of the most in-demand remote jobs. Through our success-based tuition model, we actively invest in our student's future and define success as getting them into jobs. Our programs emphasize our core values of initiative-taking acting and communicating, progressive learning attitude, respect, and client-centric acting. We implement these through unique cohort-based learning aimed at helping you achieve your personal career goals.

Data Science Career Accelerator

By the end of this six-month course, you will be able to contribute to high-performing data science teams by leveraging real-world data to build and deploy data science solutions to business problems.

Projects

Projects are designed to demonstrate your understanding of applying structured thinking/frameworks (e.g., CRISP-DM) to solve a problem. This includes defining a hypothesis/business problem to be solved at the start of the data science project, tools, or

libraries to be used to solve the problem, acquiring, and preparing the dataset needed, modelling, evaluating/diagnosing your models (bias/variance trade-off) and deploying your models.

The projects are designed to help you acquire the skills and knowledge to work on a data science team. Whatever your reason for taking the program - to get a new role at a new company, to gain skills for your current job, or just for fun – our career centre will help you prepare for that next phase of your career via interview prep, career strategy planning and resume prep sessions. Career services assistance is available during the program and after graduation to help ensure that all candidates achieve their career goals.

There are a total of six projects **(three live and three non-live)** typically developed in groups of two or three. Final deliverables for each project will include a final presentation and GitHub repo, which will allow you to share what you have accomplished with potential employers and users.

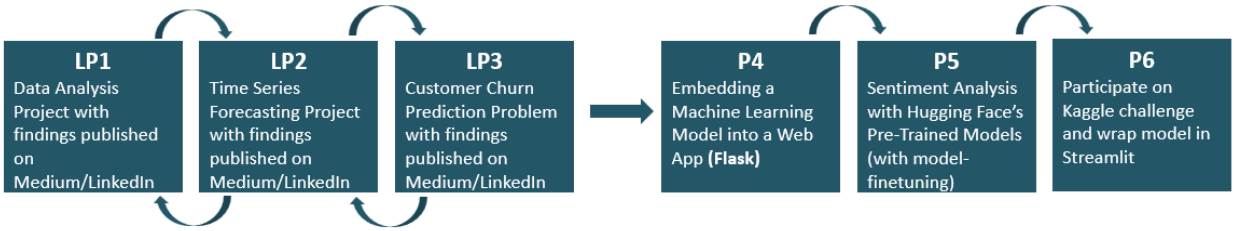
Program Format

Each week, we will curate resources/content related to a Project by applying the CRISP-DM framework i.e., Business Understanding, Data Understanding and Preparation, Modelling, Evaluation and Deployment that can be consumed in a self-study format. You will come together with your mentors/instructors in your first weekly

Live Session to discuss your progress with the project where mentors will provide feedback on progress and help achieve the weekly milestone. In your second weekly live session, mentors will take you through a Live coding round where they will demonstrate how they achieve the same weekly objectives, highlighting the problem-solving models they utilize.

More details of the projects:

- The **Live Projects** are independent of each other and a student can start with the first, second or third project
- Students need to **finish all three Live Projects** before moving to the final three projects (P)
- The **non Live Projects (Projects)**, i.e., the last three are also independent but are recommended to be taken in the corresponding order



Project Submission

- Solution Code
    - Either a notebook or a python file is uploaded to the student's GitHub

- Requirement file
    - A text file that stores information about all the libraries, modules, and packages that are used for a particular project
- Readme file
    - A text file that introduces and explains a project. It contains information that is commonly required to understand what the project is about.

Live Projects	Week	Live Session 1	Live Session 2	Concepts/Skills Acquired	Careers Task
LIVE PROJECT 1	1	Project Presentation & Feedback	CRISP-DM Discussion	CRISP-DM - Structuring Data Science/Analytics projects - Deriving hypothesis and asking questions	Career Centre check-in
	2	Peer Programming & Feedback	Exploratory Data Analysis	Data Understanding & Preparation - Data cleaning techniques - EDA with pandas, NumPy, etc	Career Workshop (Effective communication)
	3	Project Presentation & Feedback	Data Visualisation Techniques	Data Understanding & Preparation - Using the right charts to visualise data - Data visualization with matplotlib, Plotly, etc	Career Centre job placement overview (Job search strategies)

	4	Final Project Presentation & Feedback	- Final Project Presentation	Deployment - Data storytelling - Project documentation	Career Workshop (Active listening)
LIVE PROJECT 2	5	Project Presentation & Feedback	Live coding Session: Training a regression model	Data Processing - Data exploration - Missing values computation - Feature Engineering	Career Centre check-in
	6	Peer Programming & Feedback	Live coding Session: Training a regression model	Modelling - Model development using ML Algorithms like Linear Regression, XGBoost, Exponential Smoothing, Auto Regressive Integrated Moving Average (ARIMA), SARIMA (Seasonal), N-BEATS etc.	Career Workshop (Problem-solving)
	7	Project Presentation & Feedback	Live coding Session: Training a regression model	Model Evaluation - Model Evaluation - Model Interpretation using RMSLE, RMSE, and MSE techniques	Career centre available job placement overview Job application process (ATS)
	8	Final Project Presentation & Feedback	Live coding Session: Training a regression model	Model Optimisation - Optimising Machine Learning Models - Hyperparameter tuning	Career Workshop (Emotional Intelligence)

LIVE PROJECT 3	9	Project Presentation & Feedback	Live coding Session: Training a classification model	Data Processing - Data exploration - Missing values computation - Categorical encoding	Career Centre Check-in
	10	Peer Programming & Feedback	Live coding Session: Training a classification model	Modelling - Model development using ML Algorithms like Logistic Regression, Random Forest, Decision Tree Classifier, Support Vector Machine etc.	Career Workshop (Organizational skills)
	11	Project Presentation & Feedback	Live coding Session: Training a classification model	Model Evaluation - Model Evaluation Metrics Model Interpretation using LIME, SHAP techniques	Career centre available job placement overview (How to construct your winning CV)
	12	Final Project Presentation & Feedback	Live coding Session: Training a classification model	Model Optimisation - Optimizing Machine Learning Models Hyperparameter tuning	Career Days
PROJECT 4	13	Project Presentation & Feedback	Live Coding Session: Adding model to a Flask App	Flask Applications - Flask Architecture - HTML - CSS	Career Centre Check-in
	14	Peer Programming & Feedback	Live Coding Session: Adding model to a Flask App	Flask Applications - Flask Architecture - HTML - CSS	Career Workshop (Time Management)

	15	Project Presentation & Feedback	Live Coding Session: Adding model to a Flask App	Model Deployment - Adding model to Flask app - Testing model in Flask app	Career centre available job placement overview Interview guidelines
	16	Final Project Presentation & Feedback	Live Coding Session: Adding model to a Flask App	Model Deployment - Deploying flask applications to the web	Career Workshop (Public speaking)
PROJECT 5	17	Project Presentation & Feedback	Live coding Session: Working with Pre-Trained Models	Sentiment Analysis with Pre-Trained Hugging Space Models - Data exploration - Data Preparation	Career check-in
	18	Peer Programming & Feedback	Live coding Session: Fine-tuning Pre-Trained Models from Hugging Face	Model development & Evaluation - Using the Hugging Face Inference API - Finetune Pre-Trained Models from Hugging Face - Model Evaluation	Career Workshop (Stress Management)
	19	Project Presentation & Feedback	Live coding Session: Deploying trained models on Hugging Face spaces	Model Deployment - Build a Gradio Interface for your selected model - Deploy model on Hugging Face spaces	Career centre available job placement overview (Following- up on job application)
	20	Project Presentati	Live coding Session:	Model Deployment	Career centre available job

		on & Feedback	Testing Deployed Models on Hugging Face Spaces	- Test Deployed model on Hugging Face Spaces	placement overview (Client Relationship)
PROJECT 6	21	Project Presentation & Feedback	Live coding Session: Training a regression model	Data Processing - Data exploration - Missing values computation - Feature Engineering	Career check-in
	22	Project Presentation & Feedback	Live coding Session: Training a regression model	Modelling & Evaluation - Model development using ML Algorithms like Linear Regression, XGBoost, etc - Model Evaluation - Model Interpretation using RMSLE, RMSE, and MSE techniques	No workshop
	23	Project Presentation & Feedback	Live coding Session: Training a regression model	Streamlit - Introduction to Streamlit	Career centre available job placement overview (Position Yourself for Success in Your Next Job)
	24	Project Presentation & Feedback	Live coding Session: Model Deployment	Model deployment - Deploy model with Streamlit	Career Days

NOTE: This schedule is structured in a manner that learners can choose which of the first three projects, to begin with, and an asynchronous Careers.