



Chinar Quantum AI
Cultivating AI Excellence



Data Analytics using Python

Transform Data into Insights

Learn to Think like a Data Analyst

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From the fundamentals of
programming and Data analysis to
real-world predictive-modeling

25+ Hours of Live Sessions
Mini + Capstone Projects
Hands-on Practice with Real Datasets
Industry Expert Sessions

Transformative Learning Labs

Driving capability. Building expertise. Creating measurable change

900+ hours of diligent research and design spent to develop world-class programs

500+ individuals impacted through programs which deliver value in training and mentoring



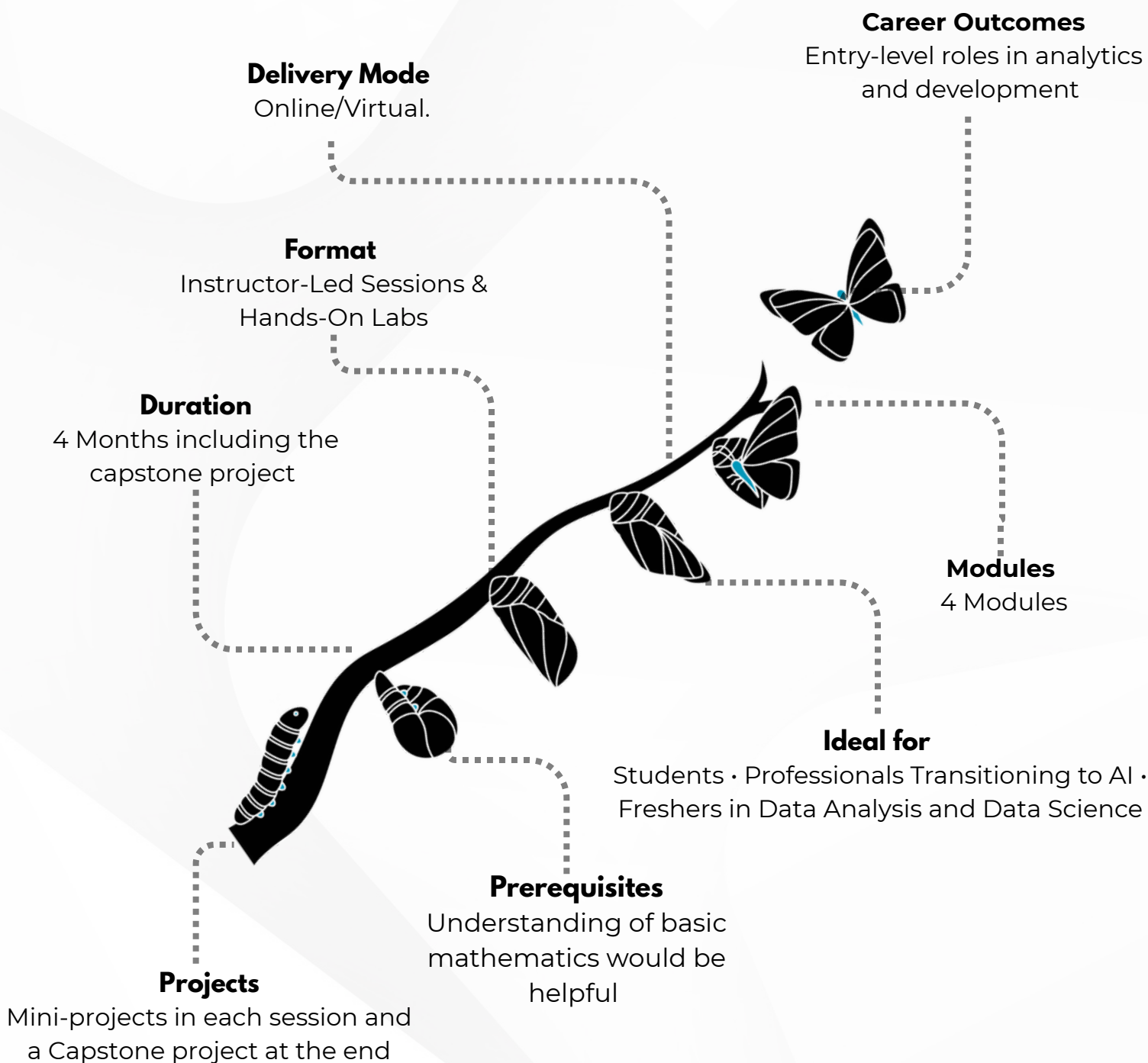
Pushing the boundaries of talent development since 2020 to empower the knowledge-economies of 21st century



300+ expert sessions delivered

500+ hours of counseling sessions

Program Snapshot



DAP Roadmap

1 Intelligence, Data, and Information Retrieval

Understanding the Foundations of Machine and Human Intelligence



Key Concepts

- Human and Machine Intelligence
- Data as the core of intelligence
- Types of data and its vectorial nature
- Correlation, visualization, and pattern discovery



Key Outcomes

- Distinguish between human and machine intelligence
- Explain how data powers AI systems and models
- Understand types and representation of different types of data
- Use visual tools to interpret data insights



Skills

AI Literacy · Data Fluency · Visualization · Insight Interpretation



Python for AI

Building the Computational Foundation for Intelligent Systems



Key Concepts

- What is programming and why it matters in the AI era?
- The power of Python & programming environment
- Python fundamentals: variables and data types
- Python data structures: lists, tuples, and dictionaries
- Control structures: loops and conditionals for automation
- Functions: modular programming and reusable logic



Key Outcomes

- Understand core programming principles and best practices
- Navigate and code efficiently using Google Colab
- Work on mini-projects such as a password checking algorithm
- Write custom functions to structure and optimize code
- Develop problem-solving skills essential for AI and data analytics



Skills

- Python Programming · Computational Thinking · Data Structures · Algorithmic Logic · Problem Solving · Hands-on Coding

3 Foundations of Data Analysis with NumPy

From Statistical Insights to Efficient Numerical Analysis



Key Concepts

- Statistics for summarizing and interpreting data effectively
- Why NumPy for fast numerical computations?
- Basic array creation, indexing, and attributes
- Vectorization and masking techniques
- Fancy and combined indexing for advanced data selection
- Data Standardization and Dimensionality Reduction using PCA



Key Outcomes

- Apply statistical tools to summarize and standardize datasets.
- How NumPy addresses computational limits of Python?
- Create and manipulate NumPy arrays for structured data analysis
- Use vectorization and Boolean masking to extract insights efficiently.
- Learn advanced techniques such as PCA for dim. reduction



Skills

- NumPy · Statistics · Vectorized Operations · PCA ·
- Data Standardization · Hands-on Coding



Data Handling and Visualization with Pandas

From Raw Data to Insightful Visual Narratives



Key Concepts

- DataFrames and Series for structured data representation
- Data import, selection, transformation, and cleaning
- Handling missing values and ensuring data consistency
- Introduction to visual analytics and data storytelling
- Crafting static and interactive plots using Matplotlib, Seaborn, etc
- Visual patterns, correlations, and distribution analysis



Key Outcomes

- Organize and manipulate large datasets efficiently using Pandas
- Apply best practices for cleaning and transforming real-world data
- Use visual exploration to uncover trends and patterns
- Create meaningful and aesthetic data visualizations using Python libraries
- Present data-driven insights clearly for decision-making and reporting.



Skills

- DataVisualization · Pandas · Matplotlib · AnalyticalThinking · DataStorytelling · DataManipulation · Data Pre-processing

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