Capstone — End-to-End ML-Omics Project — Hands-on

Bring together biostatistics, ML, deep learning, reproducibility and MLOps concepts in one integrated end to end project. In this capstone you will frame a problem, explore and preprocess data, build and validate models, create visual analytics and deliver a reproducible analysis package suitable for internal or publication style review.

Capstone — End-to-End ML-Omics Project

Help Desk · WhatsApp

Session Index

Session 1 — Problem Brief, Data & Planning | Session 2 — Modeling, Validation & Iteration | Session 3 — Interpretability, Visual Analytics & Reporting | Session 4 — Final Packaging, Review & Presentation

Session 1

Fee: Rs 8800 Apply Now

Problem Brief, Data & Planning

Selecting or receiving a capstone problem brief

omics or clinical prediction style tasks **defining targets, cohorts and endpoints** **clarifying success and evaluation criteria**

Data understanding, QC and preprocessing plan

EDA for distributions, missingness and outliers **batch, confounders and leakage risks** **documenting planned transformations**

Project structure, timeline and reproducibility setup

folder layout for data, code and outputs | Git repo initialisation and environment files | simple analysis plan document

Session 2

Fee: Rs 11800 Apply Now

Modeling, Validation & Iteration

Baseline models and feature engineering passes

simple linear or tree based baselines | scaling, encoding and feature selection ideas | tracking experiments and results table

Validation design and model comparison

train validate test or CV splits | metrics for discrimination and calibration | avoiding overfitting and leakage

Refinement cycles and simple AutoML or HPO use

structured iteration rounds | hyperparameter search with logs | selection of one or two final candidate models

Session 3

Fee: Rs 14800 Apply Now

Interpretability, Visual Analytics & Reporting

Explaining models and checking stability of insights

feature importance and partial dependence style views | simple SHAP or surrogate model based explanations | sanity checks on interpretation

Designing figures and dashboards for the project

EDA and model performance figure set | key plots for subgroups and risk profiles | optional interactive

dashboard outline

Drafting the main report and summary narrative

problem, methods, results, limitations sections **alignment with FAIR and reproducibility practices** **preparing review friendly appendices**

Session 4
Fee: Rs 18800 Apply Now

Final Packaging, Review & Presentation

Reproducible packaging and handover bundle

clean Git repo with tags and README **environment and run instructions** **data dictionary and metadata tables**

Peer and mentor review walkthrough

live rerun of key analysis steps **discussion of choices and trade offs** **capturing feedback and improvement notes**

Short presentation and next steps planning

slide deck with goals, methods and outcomes **ideas for extension, deployment or publication** **personal reflection on skills and portfolio use**