AI-ML with Python:

Data science (AI-ML):

• NumPy, Pandas, Visualization, EDA

• Supervised Learning - Linear Models, Decision trees, Ensemble Models

• Introduction to Deep Learning, Neural Networks

• Introduction to NLP(Natural language Processing)

Data Engineering

• Structured and Unstructured Data

• Databases to Store and Querying Unstructured Data (MongoDB, Cassandra and GraphDB)

• Data – Discovery, Catalogue, Lineage, Governance and Quality

• Dimensionality Reduction (LDA and PCA)

• Synthetic Data (SDV) and Data Versioning (DVC)

Designing Intelligent Systems

• Requirements, Architecture and Design Patterns

• Model Quality, Data Quality, System Quality

• Software Engineering Architecture and Design, Microservices

• AIOps, DataOps, MLOps

Qualities in Intelligent Systems

• NFR Qualities in context to Data Science Applications - Modularity, Reproductiability

• Qualities in Intelligent Systems - Completeness, Consistency and Correctness of Data, Explainability, Interpretability, Fairness, Bias

• Secure Software Engineering - Security and Privacy, Cryptosystems, RSA, Web Application Vulnerabilities

• Intelligent User Interfaces