

AI & Machine Learning for Central Bank Research (No-Code/Low-Code Approach)

Duration: 4 Days

Module 1: AI in Central Bank Research – Context & Value

- Role of AI/ML in modern central banking
 - Moving from traditional research → AI-driven research
 - Key use cases: forecasting, shocks, climate, sentiment
 - How AI simplifies and accelerates research workflows
 - Overview of no-code, tool-based approach
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Module 2: Data Collection & Alternative Data Sources

- Traditional vs alternative data in economic research
 - Web scraping concepts (no-code tools)
 - Collecting data from:
 - Websites, reports, APIs
 - News, social media, global datasets
 - Introduction to cloud-based data ingestion
 - Data storage basics (cloud platforms)
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Module 3: Data Preparation & Cloud-Based Processing

- Cleaning and transforming data using tools (no coding)
- Structuring economic & climate datasets
- Using cloud platforms for:
 - Data storage
 - Data processing
- Creating analysis-ready datasets
- Data pipelines (conceptual, tool-driven)

Module 4: AI for Economic Forecasting & Projections

- AI vs traditional econometric models
 - Forecasting inflation, GDP, interest rates
 - Using AI tools for projections (no-code platforms)
 - Scenario analysis and simulations
 - Visualization of forecasts using dashboards
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Module 5: AI for Economic Shock & Risk Analysis

- Identifying economic shocks (financial crises, pandemics)
 - Early warning systems using AI
 - Pattern recognition & anomaly detection
 - Policy insights from AI-driven analysis
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Module 6: Climate Change & AI in Central Banking

- Climate risks: physical vs transition risks
 - AI applications in climate risk modeling
 - Climate stress testing (concept + tools)
 - Integrating climate data into economic research
 - Supporting sustainable finance decisions
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Module 7: Sentiment Analysis for Policy & Research

- Understanding public and market sentiment
 - Data sources:
 - News articles
 - Social media
 - Policy documents
 - No-code tools for sentiment analysis
 - Use case: Monetary policy communication insights
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Module 8: End-to-End AI Research Workflow (Hands-on Focus)

- Putting it all together:
 - Data collection → Processing → Analysis → Forecasting
- Tool-based workflow (no programming)
- Sample use case walkthrough:
 - From raw data → policy insight
- Best practices for research teams
- Limitations, risks, and governance