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DIGITAL INNOVATION AND TRANSFORMATION | DIT-024

# Building AI Financial Chatbot

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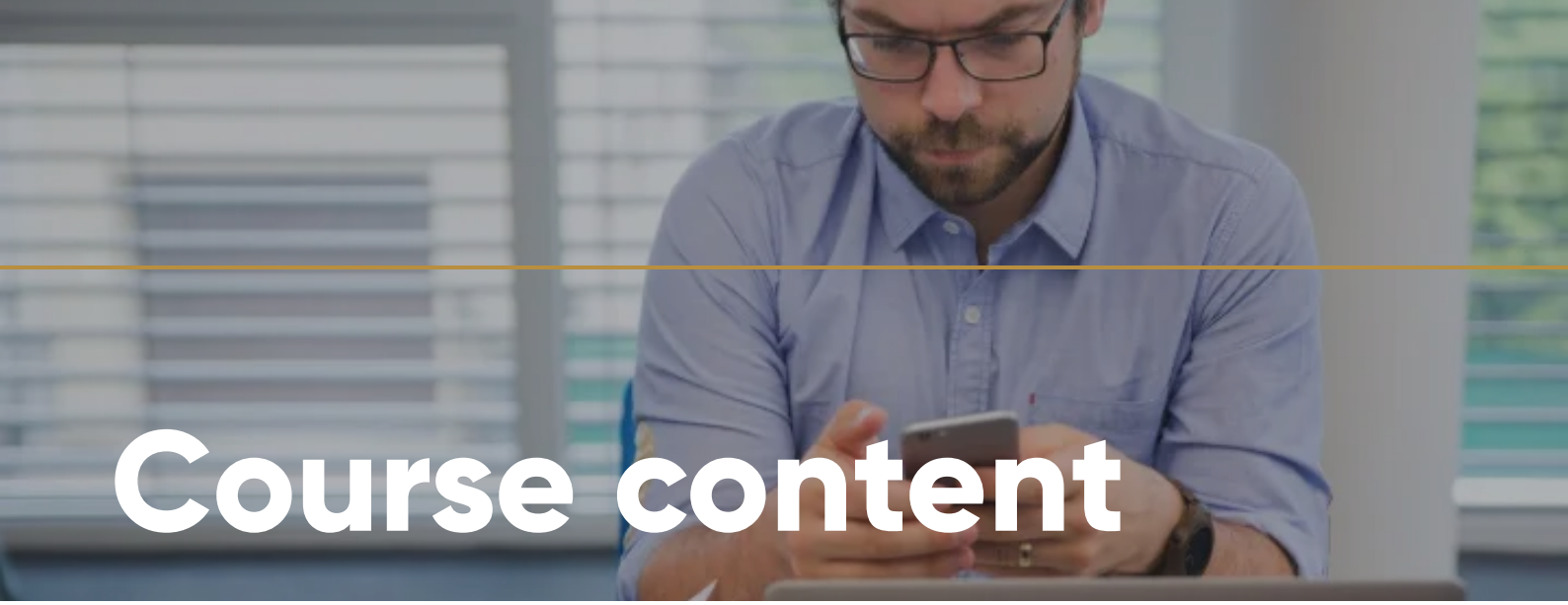


# Course content

## Why Attend

Artificial intelligence is transforming how financial institutions and finance departments interact with customers, employees, and financial information. AI-powered chatbots are increasingly used to answer financial enquiries, support banking services, explain financial products, assist with transaction-related requests, and provide access to financial information through natural language conversations.

Traditional financial service channels often face challenges involving high enquiry volumes, repetitive customer requests, inconsistent responses, limited service availability, and increasing operational costs. AI financial chatbots offer opportunities to improve service accessibility, automate routine interactions, and deliver more responsive financial support.

However, developing a reliable financial chatbot requires more than connecting a conversational AI model to a user interface. Financial applications must manage sensitive information, interpret financial terminology accurately, retrieve information from trusted sources, maintain conversational context, and operate within appropriate security and regulatory controls.

AI financial chatbots must also address risks associated with hallucinations, misleading financial explanations, unauthorised access to account information, inaccurate calculations, and inappropriate financial recommendations.

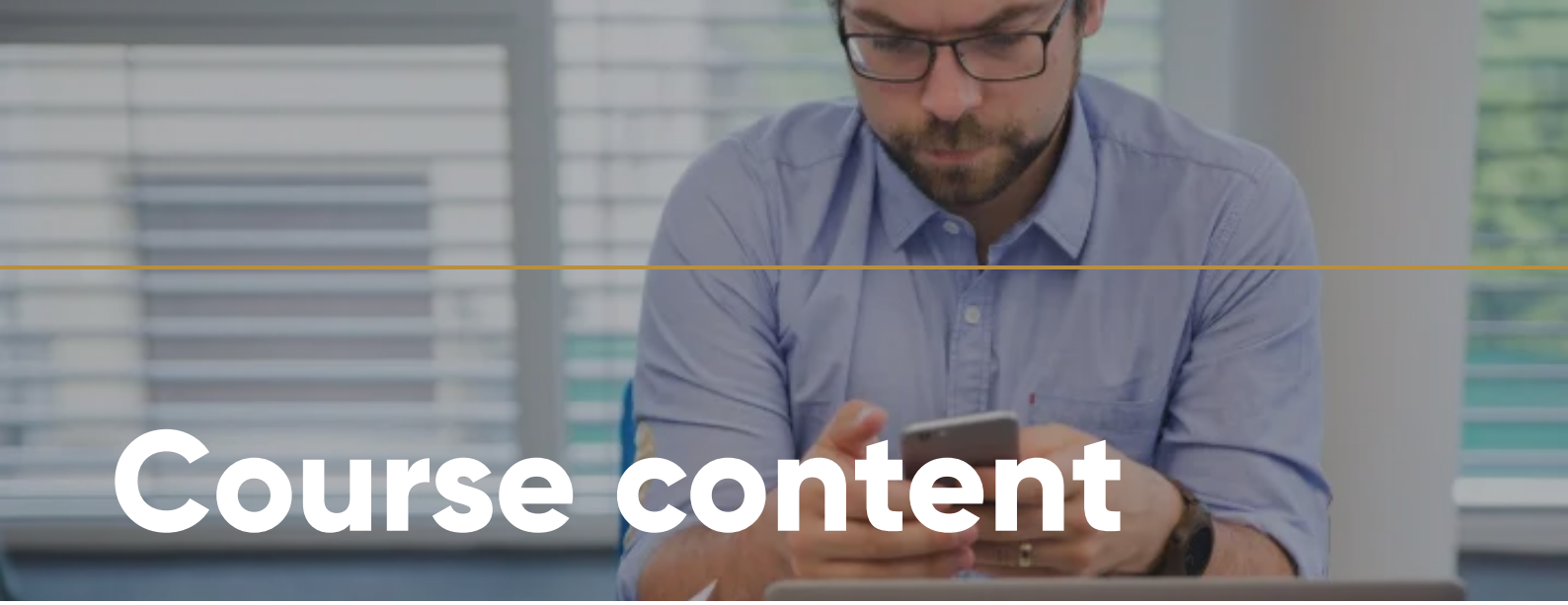
The Building AI Financial Chatbot course provides participants with practical knowledge of designing, developing, testing, and implementing AI-powered conversational solutions for banking and financial services.

Participants explore conversational AI architecture, natural language processing, large language models, financial knowledge integration, retrieval-augmented generation, API connectivity, chatbot workflow design, financial data security, and performance evaluation.

Through guided development exercises and realistic financial service scenarios, participants design and prototype an AI financial chatbot capable of handling defined financial enquiries while applying appropriate validation, security, and human oversight mechanisms.

### Professional Problems This Course Is Designed to Solve

• High volumes of repetitive financial enquiries: Designing AI chatbots that provide consistent responses to common banking, accounting, and financial service questions.



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## Why Attend

• Limited availability of financial support services: Developing conversational interfaces that can provide information and guidance outside conventional service hours.

• Inaccurate or inconsistent chatbot responses: Integrating verified financial knowledge sources, structured instructions, and response validation mechanisms.

• Difficulty connecting AI with financial information systems: Understanding secure API integration, data retrieval, and controlled access to authorised financial information.

• Risks involving sensitive financial data: Applying authentication, authorisation, encryption, privacy safeguards, and appropriate information handling procedures.

• Poor customer experience in automated financial interactions: Designing clear conversational journeys, effective fallback responses, and appropriate escalation to human support.

• Limited ability to evaluate chatbot effectiveness: Establishing performance indicators covering response accuracy, resolution rates, latency, customer satisfaction, and operational efficiency.

## Course Methodology

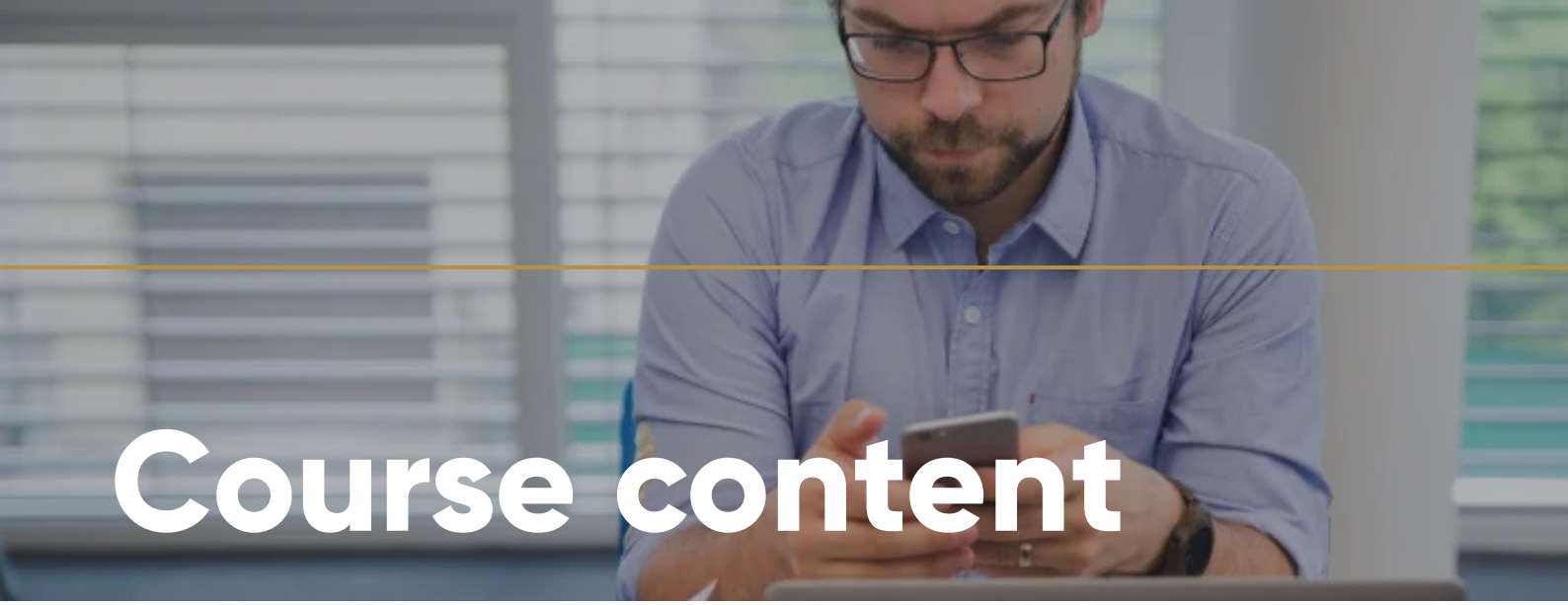
The programme combines instructor-led discussions, practical AI development demonstrations, chatbot architecture workshops, conversational design exercises, financial data integration activities, and application testing simulations.

Participants work with realistic financial service scenarios involving account enquiries, payment information, financial product explanations, budgeting support, transaction categorisation, and internal financial knowledge retrieval.

Hands-on activities introduce the use of Python, conversational AI APIs, structured prompts, retrieval-augmented generation, and simple chatbot interfaces. Participants also examine how to integrate approved financial information sources and develop secure application workflows.

The programme follows a progressive development approach, beginning with chatbot requirements and architecture before moving into implementation, integration, testing, and deployment planning.

Participants are encouraged to use synthetic or appropriately anonymised financial data during practical exercises.



# Course content

## Course Objectives

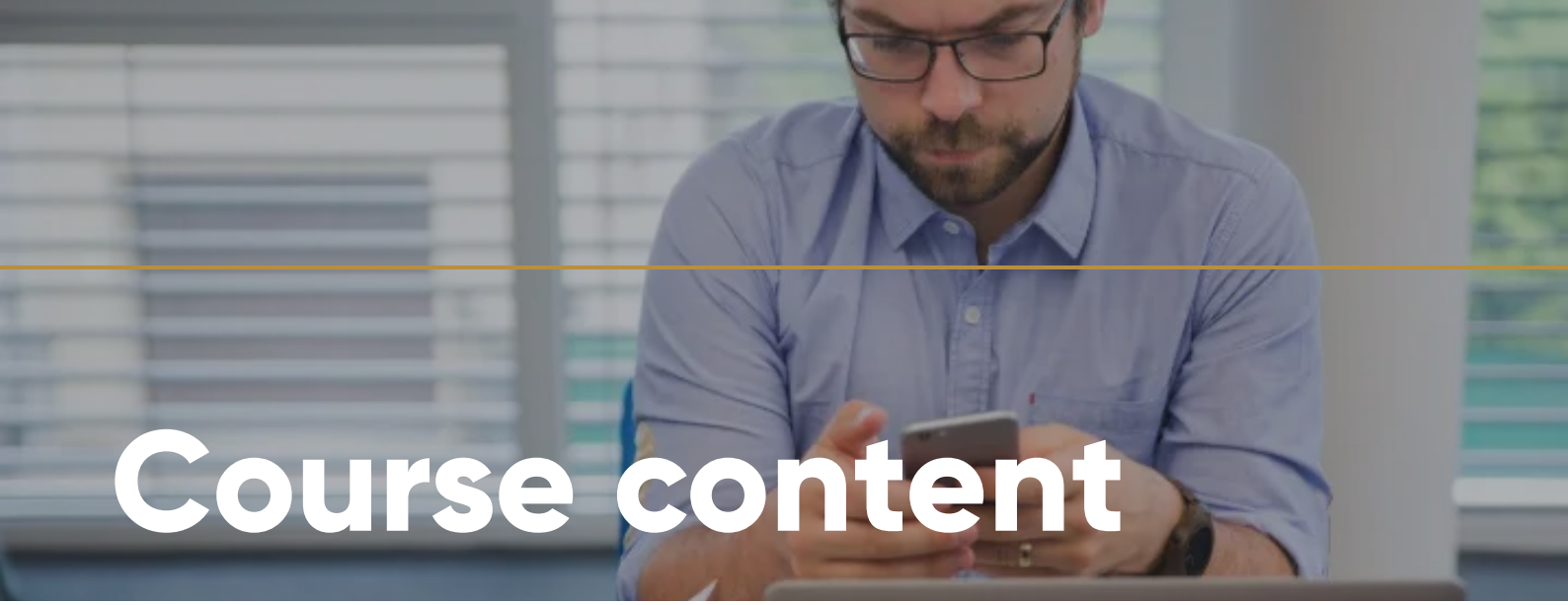
By the end of this course, participants will be able to:

- Explain the principles and applications of AI chatbots in banking and financial services
- Identify suitable financial chatbot use cases and business requirements
- Understand the architecture of large language model-based conversational applications
- Design effective financial chatbot conversation flows and user interactions
- Develop structured prompts for accurate financial information assistance
- Build a basic AI chatbot using Python and conversational AI APIs
- Integrate trusted financial knowledge through retrieval-augmented generation
- Connect chatbot workflows with authorised financial data sources and services
- Apply authentication, authorisation, and financial data protection principles
- Evaluate chatbot responses for accuracy, reliability, and regulatory suitability
- Implement testing, monitoring, fallback, and human escalation mechanisms
- Develop a practical financial chatbot prototype and implementation roadmap

## Target Audience

This course is suitable for:

- Banking digital transformation professionals
- Financial technology developers and specialists
- Artificial intelligence and machine learning practitioners
- Software developers and application engineers
- Banking IT managers and systems analysts
- Financial services product managers
- Customer experience and digital banking professionals



# Course content

## Target Audience

• Financial data analysts and automation specialists

• Finance innovation and business process improvement managers

• Technology consultants supporting banking and financial institutions

## Target Competencies

Participants will develop competencies in:

• Financial conversational AI solution design

• AI chatbot architecture and development

• Financial natural language understanding

• Prompt engineering for financial applications

• Python-based chatbot implementation

• Financial knowledge retrieval and RAG integration

• API connectivity and financial system integration

• Financial data security and access management

• Chatbot testing and performance evaluation

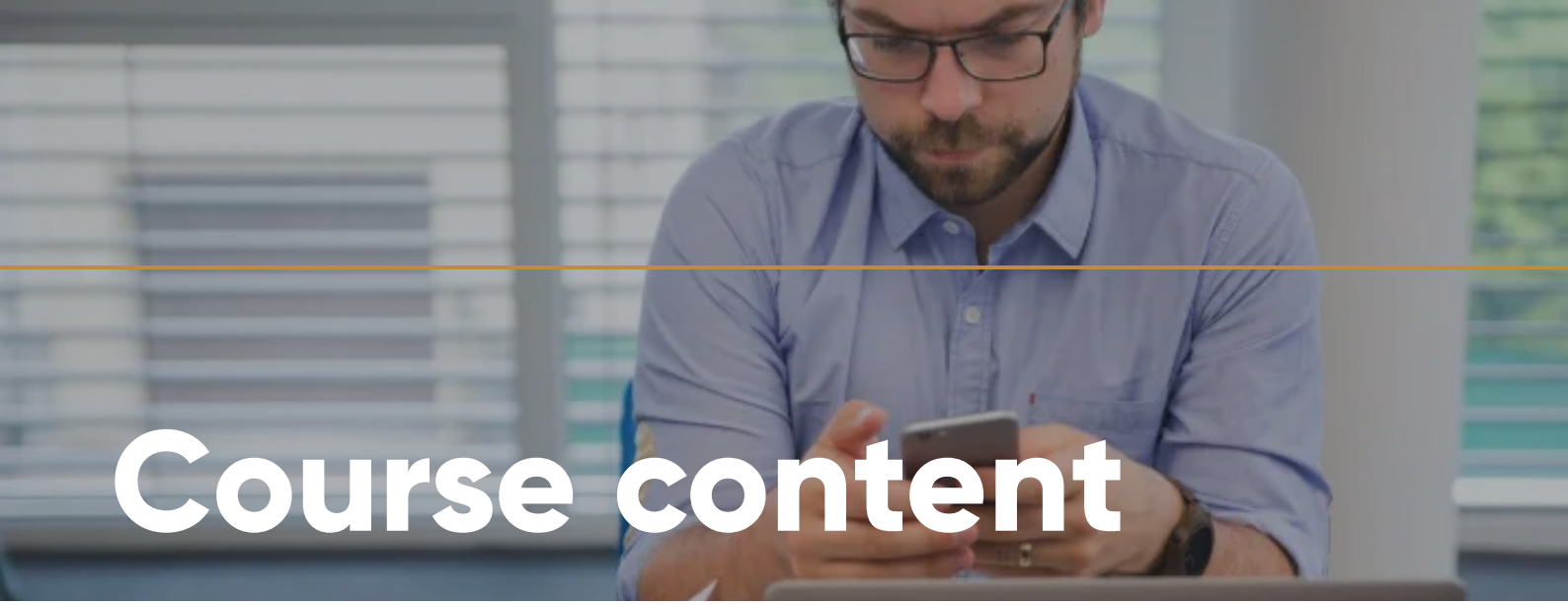
• AI chatbot deployment and operational governance

## Course outline

### Day 1: AI Financial Chatbot Fundamentals and Solution Architecture

• Understanding the role of conversational AI in banking, financial services, accounting, customer support, and financial information management

• Comparing traditional rule-based chatbots with large language model-based conversational systems and hybrid chatbot architectures



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## Course outline

• Identifying financial chatbot use cases, including account information assistance, transaction enquiries, financial product explanations, budgeting support, and internal finance knowledge services

• Defining chatbot business requirements, intended users, permitted functions, service boundaries, and measurable success criteria

• Exploring chatbot architecture components, including user interfaces, language models, application backends, knowledge sources, APIs, and security controls

• Practical workshop: Designing a financial chatbot solution blueprint covering use cases, user journeys, functional requirements, architecture, and information security considerations

### Day 2: Conversational Design, Prompt Engineering and Chatbot Development

• Understanding conversational design principles, user intent recognition, dialogue management, context handling, and effective financial service interactions

• Developing system instructions and prompt templates that define chatbot responsibilities, response formats, limitations, and escalation conditions

• Introducing Python-based chatbot development and the use of conversational AI APIs for generating and managing responses

• Building conversational workflows that handle financial questions, follow-up requests, clarification, and structured information presentation

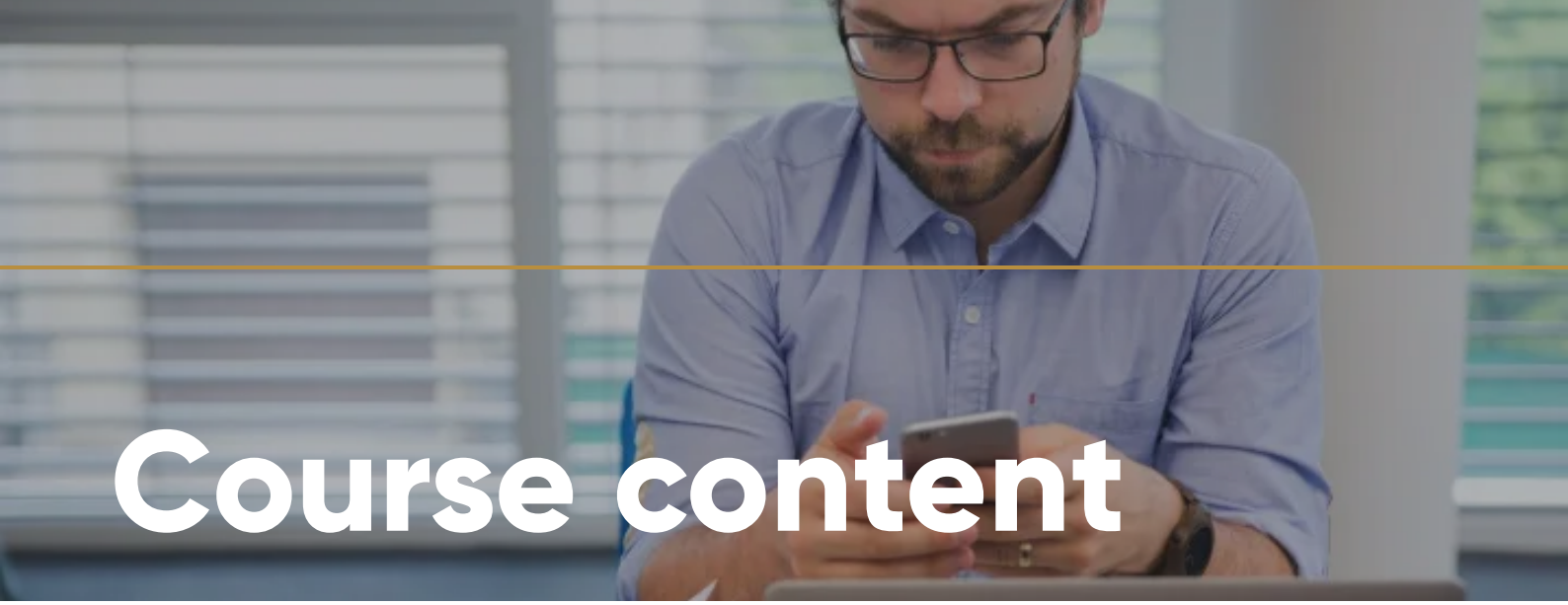
• Implementing response formatting, input validation, error handling, and safeguards against unsupported financial claims

• Hands-on development workshop: Building a basic AI financial chatbot that responds to defined financial enquiries using structured prompts and a simple conversational interface

### Day 3: Financial Knowledge Integration, RAG and API Connectivity

• Understanding retrieval-augmented generation and its role in improving the factual grounding of financial chatbot responses

• Preparing financial knowledge sources, including product information, policy documents, frequently asked questions, financial terminology, and service procedures



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• Exploring document processing, text segmentation, embeddings, vector search, and retrieval methods for financial knowledge systems

• Integrating retrieved financial information into chatbot responses while preserving source references, contextual relevance, and information accuracy

• Understanding API integration with financial applications, including approved account information services, transaction systems, and financial data platforms

• Practical workshop: Enhancing a financial chatbot with a controlled financial knowledge base and a simulated API connection to retrieve authorised financial information

### Day 4: Financial Data Security, Compliance and Chatbot Quality Assurance

• Identifying security and privacy risks involving personal financial information, account data, payment details, credentials, and confidential business records

• Applying authentication, authorisation, role-based access, encryption, secure API handling, and data minimisation principles

• Understanding relevant financial services considerations involving customer protection, data privacy, financial crime controls, and jurisdiction-specific regulatory obligations

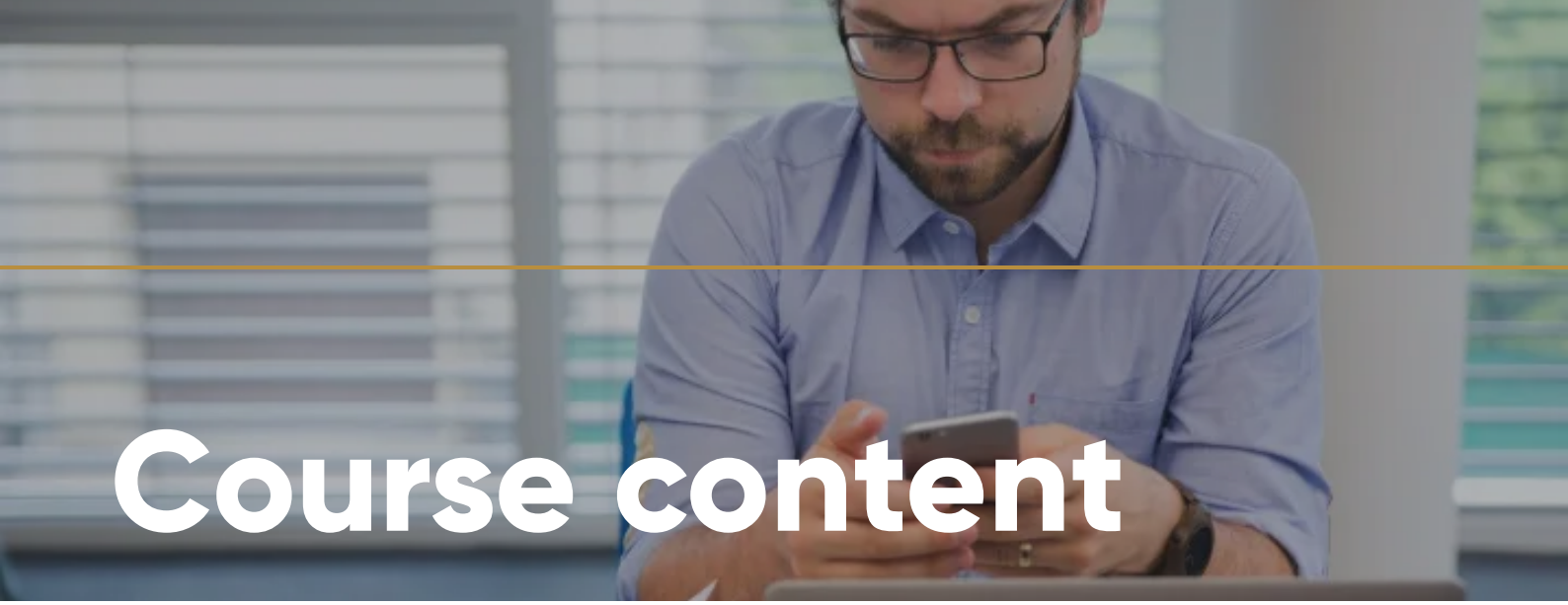
• Addressing chatbot risks such as hallucinations, prompt injection, misleading financial guidance, unauthorised actions, and inappropriate disclosure of information

• Developing chatbot testing procedures covering functional correctness, financial response accuracy, security, user experience, and exceptional situations

• Case study: Testing a financial chatbot against simulated customer enquiries, incorrect financial information, unauthorised access attempts, and scenarios requiring human escalation

### Day 5: Financial Chatbot Deployment, Performance Monitoring and Continuous Improvement

• Understanding deployment options for financial chatbots across websites, mobile banking applications, internal portals, and customer service platforms



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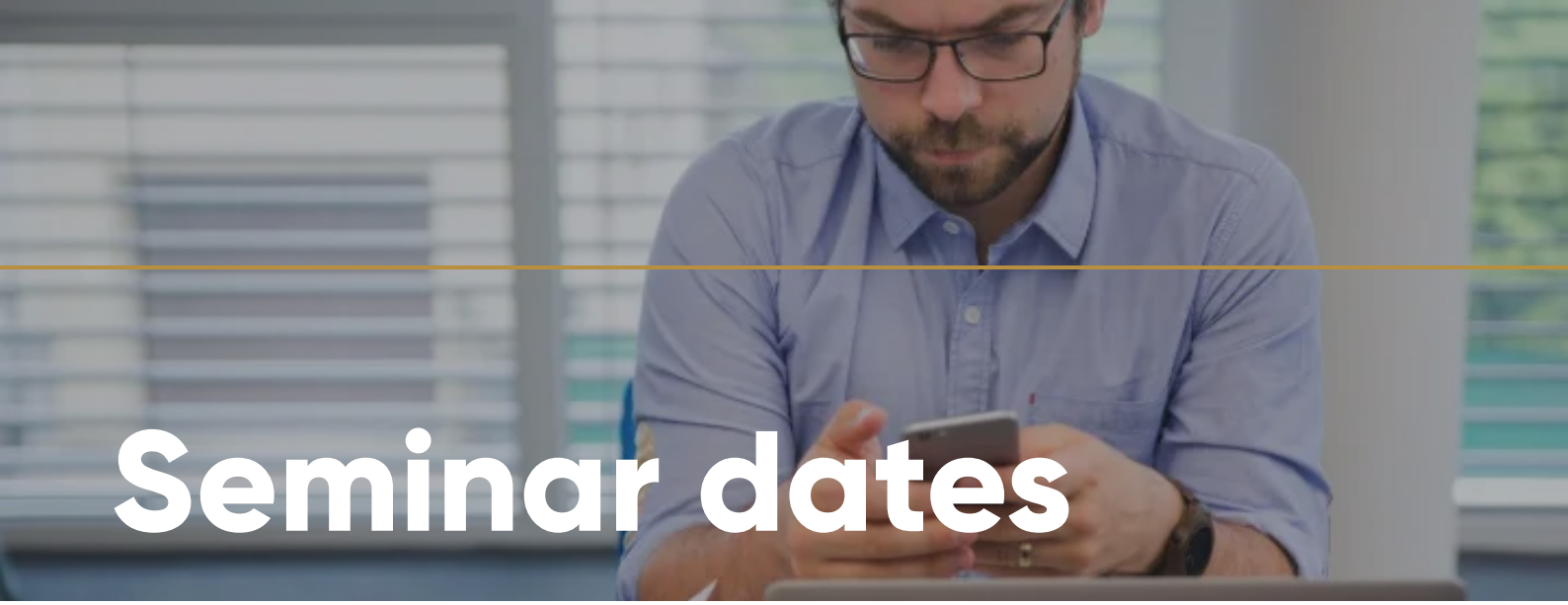
• Establishing operational monitoring frameworks covering response accuracy, conversation completion, containment rates, escalation frequency, latency, and user satisfaction

• Evaluating model usage, token consumption, infrastructure requirements, operating costs, and scalability considerations

• Designing human-in-the-loop processes for sensitive financial enquiries, complaints, transaction disputes, and situations requiring regulated professional judgement

• Developing a financial chatbot implementation roadmap covering pilot testing, stakeholder approval, security validation, deployment, staff training, and continuous improvement

• Capstone exercise: Developing and presenting a Functional AI Financial Chatbot Prototype incorporating conversational design, financial knowledge retrieval, secure data integration concepts, response validation, user safeguards, performance indicators, and a deployment roadmap



# Seminar dates

## Available seminar dates

Live dates and pricing for Building AI Financial Chatbot generated from the course details page.

| Date | Location | Format | Fee |
|---|---|---|---|
| Dates on request | Venue on request | Classroom | **Contact us** |

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| **Live online option** | Online delivery is available at €1,850.-. |