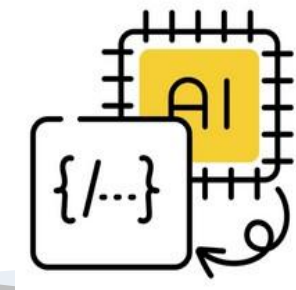




**HRR BABS AND SONS**  
LIMITED RC: 2025476

# **Certified Advanced Technology Professional in Artificial Intelligence (CATPAI)**





# **Certified Advanced Technology Professional in Artificial Intelligence (CATPAI)**

12-15 Weeks Executive Program

**In partnership with Maharaja Agrasen Digital  
Institute and Consulting Engineers  
Association of India**



# Program Overview

## Program Duration

12-15 Weeks (Every Saturday)

## Learning Mode

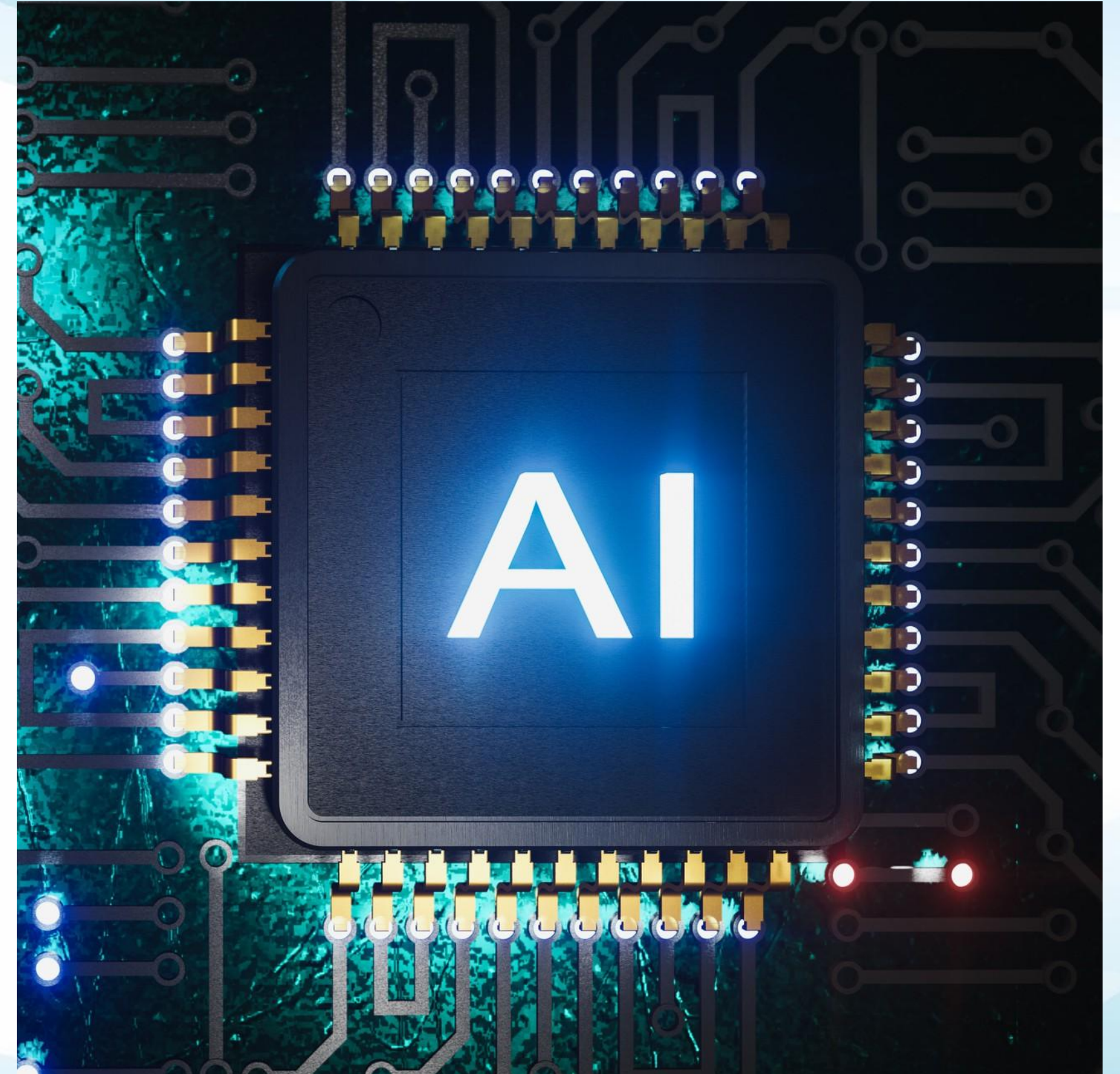
Online (Live)

## Weekly Timing

10:00AM to 01:00PM (TBD)

## Eligibility

Executives, professionals, entrepreneurs, AI enthusiasts, academicians, researchers, and Undergraduates & graduates



# Curriculum Structure





# Weeks1-3: Foundations & Evolution

## Week1: AI: The Global Game Changer

AI fundamentals and impact on life systems

AI terminologies: ML, DL, LLMs, NLP, GenAI

AI vs Human Intelligence & Traditional Automation

Diverse applications across industries

Introduction to Capstone Project

## Week2: Understanding AI, ML, DL

AI types: ANI, AGI, ASI and applications

Machine Learning core concepts and workflows

Deep Learning architectures (CNNs, RNNs, Transformers)

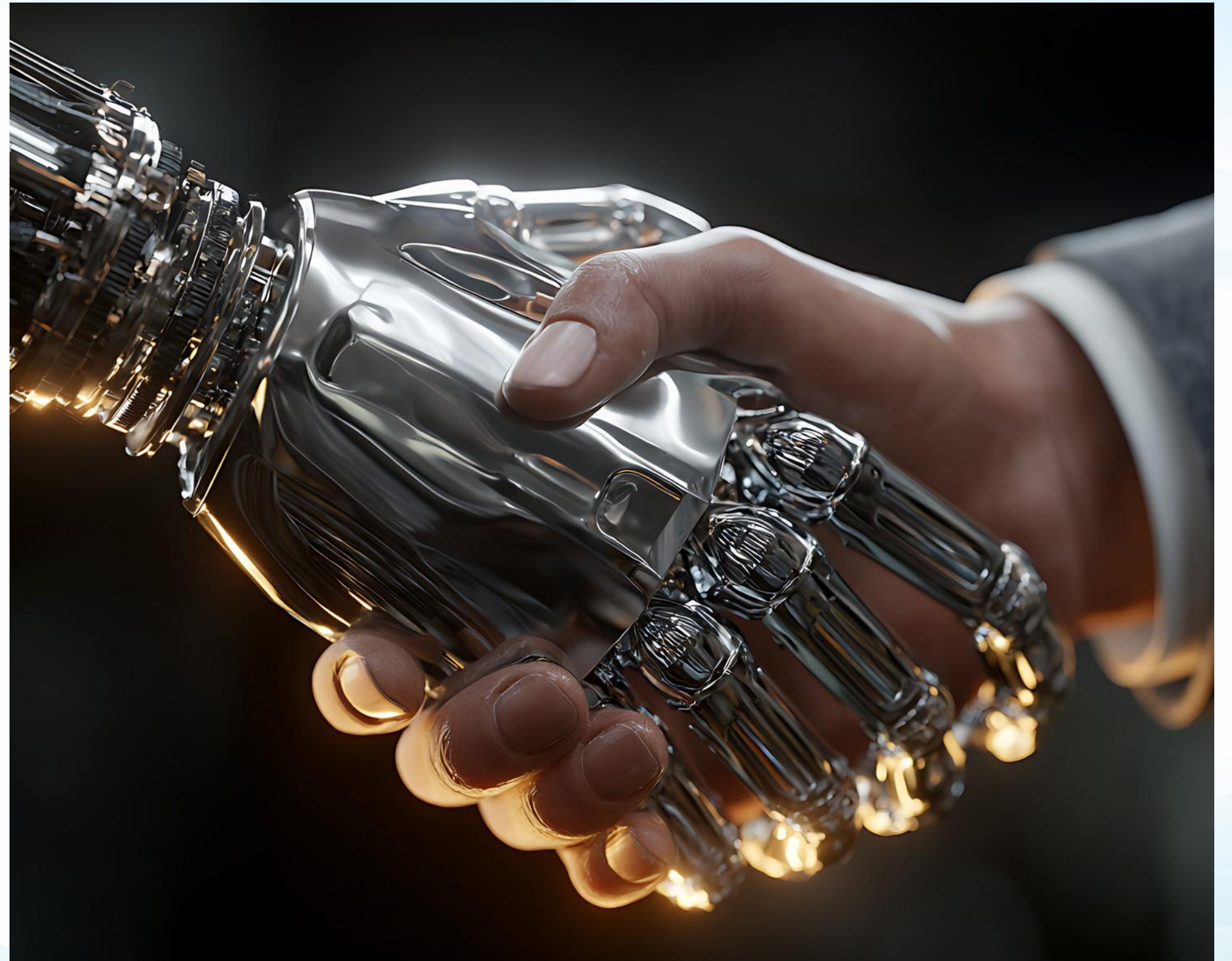
Relationship between AI, ML, and DL

## Week3: Evolution of ICT & Big Data

ICT evolution: early to cloud computing

Big Data characteristics (Volume, Velocity, Variety)

Data Analytics: descriptive to prescriptive





# Weeks4-5: LLMs & Professional Applications

## 🤖 Week4: Large Language Models

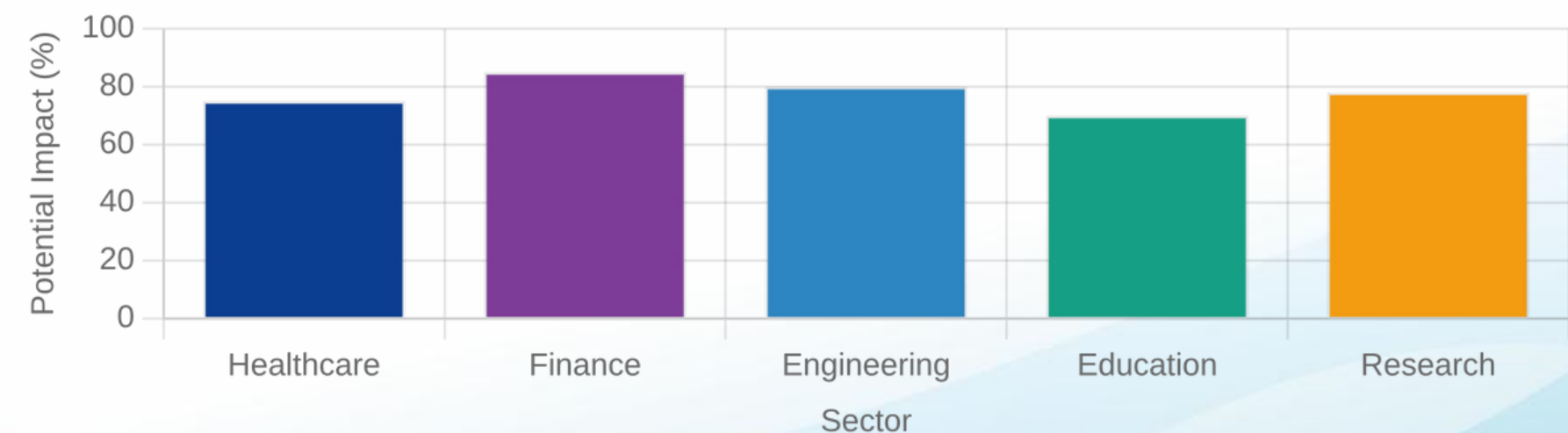
- ✓ Most used LLMs: ChatGPT, Gemini, Perplexity
- ✓ Introduction to Prompt Engineering
- ✓ Types of Prompts: Open-ended, closed, instruction-based
- ✓ The Role of Context in Prompts
- ✓ Effective vs Ineffective Prompts

## 📁 Week5: Professional Applications

- ✓ **Healthcare/Medicine:** Diagnostic assistance, patient education
- ✓ **Finance/Banking:** Fraud detection, report generation
- ✓ **Engineering/Technology:** Code generation, technical documentation
- ✓ **GenAI in Classroom:** Personalized learning, assessment creation
- ✓ **GenAI in Research:** Literature review, data analysis, hypothesis generation



AI Adoption Potential by Sector





# Weeks6-8: Business & Creative Applications

## Week6: Applicability of GenAI in Business

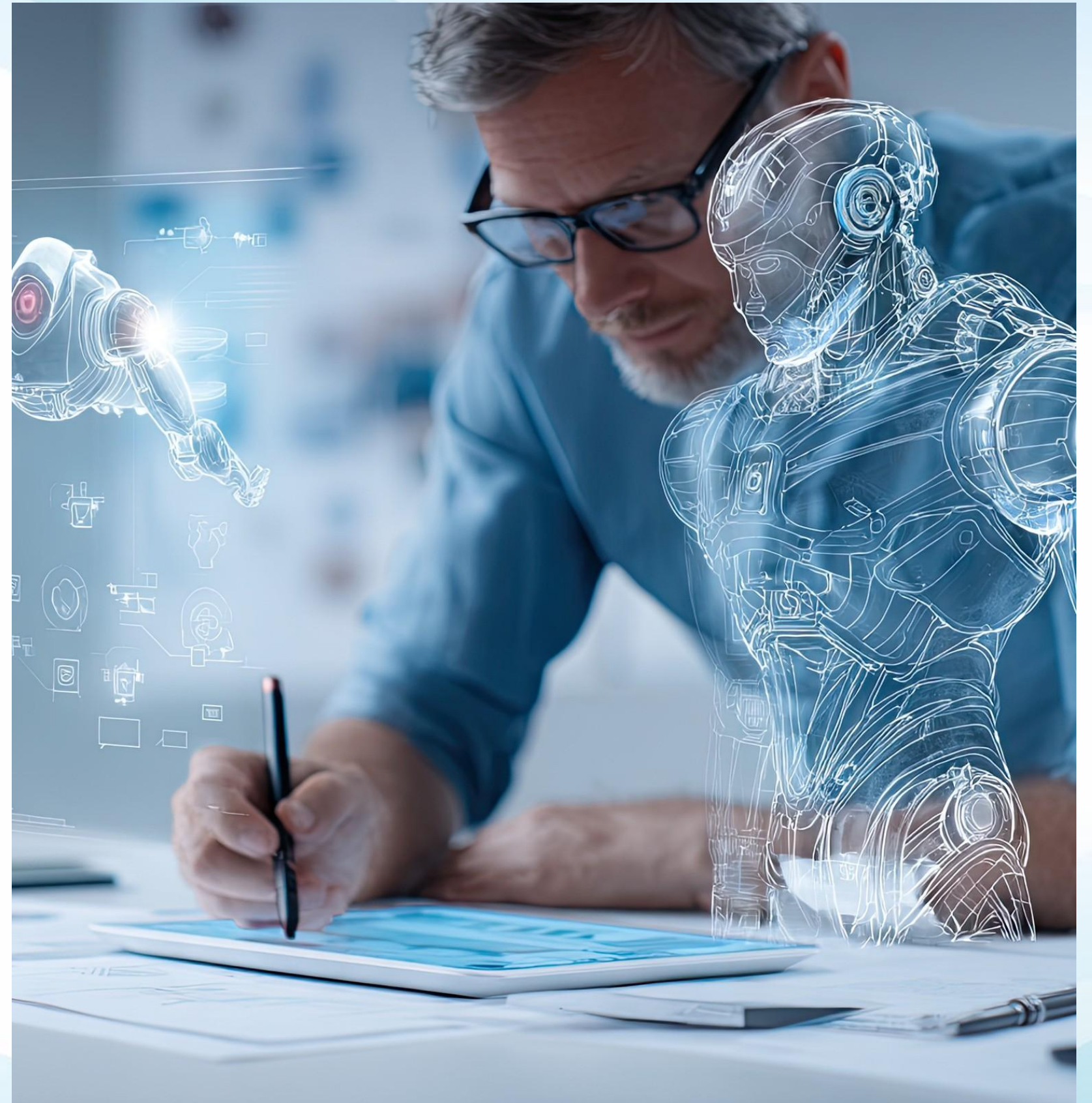
- 📄 Content Writing: Reports, Emails, Summarization
- 🎧 Customer Service: FAQ generation, Chatbots
- 📈 Business Practices: Marketing, Sales, Forecasting

## Week7: AI in Creative Arts & Media

- 🖌️ AI-Powered Design Tools & Image Translation
- 🎥 Video Production: Editing, Animation, VFX
- 📰 Journalism, Copywriting, Content Creation

## Week8: Customizing Your Work with AI

- ⚙️ Integration with Existing Systems
- 🤖 Agentic AI: Concepts & Applications
- 🔧 Capstone Project Requirements & Design





# Weeks9-10: Cyber security Implications

## Week9: Impact of GenAI on Cyber security

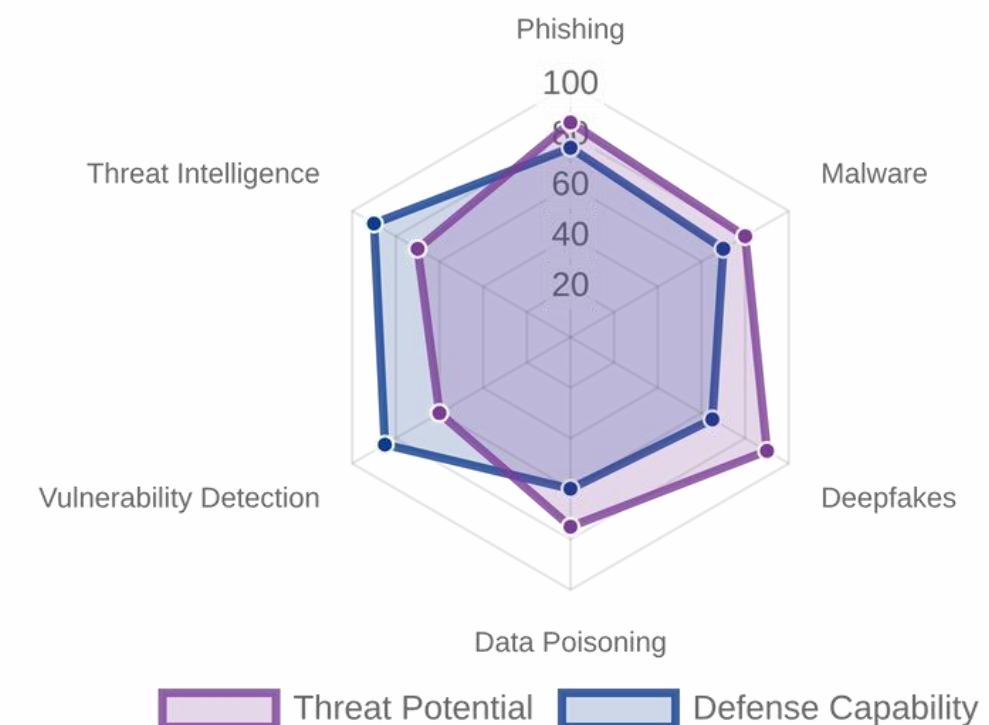
- 🛡️ Introduction to GenAI in cyber security and its dual-use nature
- 🔒 Enhanced cyber security defenses: Automated threat intelligence and incident response
- 👤 Security policy generation and vulnerability detection
- 🔧 Advanced cyber attacks: Sophisticated phishing and malware generation



## Week10: Advanced Threats & Mitigation

- 🎮 Advanced GenAI-driven threats: Deep fakes and automated exploit generation
- 🛡️ Mitigation strategies: AI-powered detection and secure bydesign
- 👥 The human element: Up skilling professionals and critical thinking
- ⚖️ Future outlook: Regulatory landscape and ethical dilemmas

GenAI in Cybersecurity: Threats vs. Defenses





# Weeks 11-12: Ethics, Laws & Future Trends

## Week 11: Ethical & Legal Implications of AI

### Key Topics

- AI Bias and Fairness: Identification and mitigation strategies
- Intellectual Property Rights: Ownership of AI-generated content
- Regulatory Compliance: DPDP, GDPR, AI transparency laws
- Best Practices for Ethical AI: Creating responsible AI strategies
- Social Damage Risk: Impact on society and relationships



## Week 12: Emerging Trends, Ethics, Global Laws & Certifications

### Emerging Trends

- GenAI advancements and Agentic AI
- EdgeAI and AI for scientific discovery
- ExplainableAI (XAI) and Federated Learning

### Global Laws & Regulations

- EU AI Act and US AI policy frameworks
- African AI strategies (e.g., NDPR)
- International cooperation and key regulatory principles

### AI Certifications

- Vendor-specific and platform-agnostic certifications
- Specialized AI certifications and their benefits
- Choosing the right certification path

# Capstone Project

## Project Overview

The Capstone Project is a personalized, hands-on application of AI concepts in the participant's field of interest. It runs throughout the program, with specific milestones aligned with the weekly modules.

Participants will identify a real-world problem in their professional domain and develop an AI-powered solution using the tools and techniques learned in the course.

## Project Milestones

### Problem Identification & Proposal

1

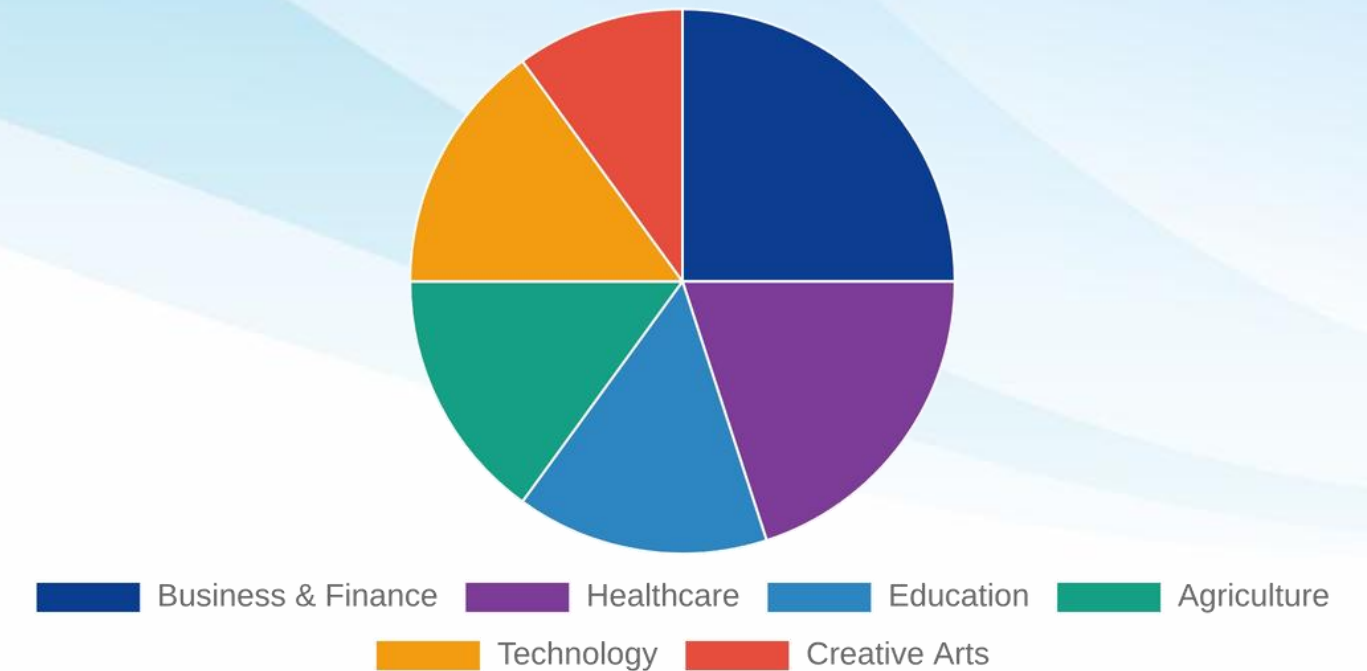
Define the problem scope and propose an AI-based solution

### Design & Planning

2


Create detailed specifications and select appropriate AI tools

Common Capstone Project Domains





# Practical GenAI Tool chains



### Strategic Market Research


Comprehensive market research & presentations

Perplexity

→ ChatGPT

→ Sheets

→ Canva



### Customer Support & FAQ


Intelligent FAQ systems and chatbot responses

Perplexity

→ ChatGPT

→ Forms

→ Docs



### Content Creation & Optimization


Blog content for search engines & social media

Search

→ ChatGPT

→ Grammarly

→ Hootsuite



### Personalized Learning Content

Educational materials for diverse learning needs

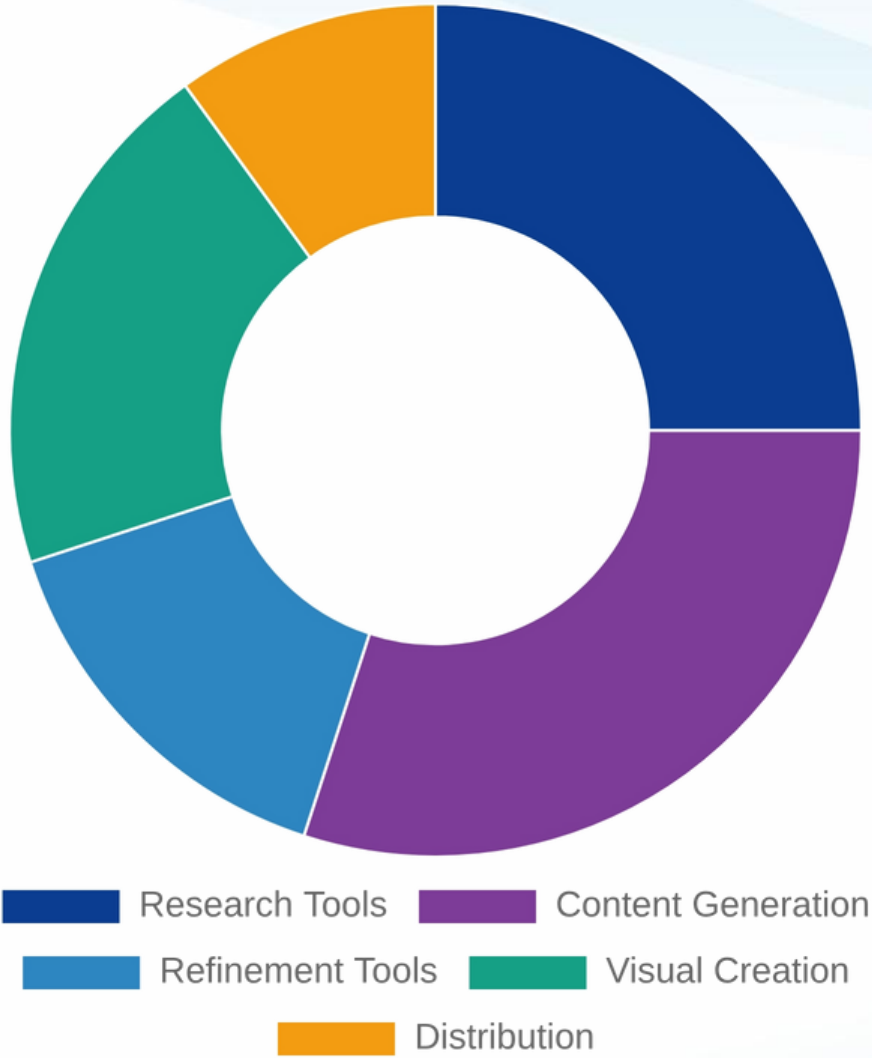
Search

→ ChatGPT

→ Canva

→ Quizlet

Toolchain Component Distribution



*Note:* All tool chains use free/freemium tools for accessibility

# SELECTED CATPAI TOOLS

A comprehensive perspective in AI application

 **ChatGPT**

 **Gemini**

 **Copilot**

 **perplexity**

 **Claude**

 **DALL-E**

 **Leonardo.Ai**

 **Napkin**

 **Grok**

 **Midjourney**

 **Gamma**

 **Prezi**

 **PICTORY™**

 **runway**

 **Artbreeder**

 **MURF.AI**

 **deepseek**

 **tldraw**

 **Google AI Studio**




 **orange**  
DATA MINING



Ready to Transform Your AI Journey?

 **Apply Now!**

## **Enrollment Information**

-  Next Cohort: TBD
-  Application Deadline: TBD
-  Limited to{TBD} participants per cohort

## **Contact Us**

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