



**40,000+**  
Students Trained

**14,000+**  
Students Placed

**200+**  
Placement  
Companies

**14Years**  
of Student Trust

CELEBRATING  
**14 YEARS**

**QualityThought**®

Transforming Dreams! Redefining Future!



# AI - TESTING

Visit Now  
[qualitythought.in](http://qualitythought.in)

[qualitythought.in](http://qualitythought.in)  
f @in t qttworld



Step into the world of software training guided by the insights of an industry luminary, Ramana Bhupathi. With a career spanning over a decade and a half in the dynamic Information Technology sector, Mr. Bhupathi brings a wealth of experience and expertise that has shaped the course of modern software development.

Mr. Bhupathi's journey commenced at the forefront of technological innovation, with pivotal roles at Satyam Computer and Accenture Consulting. His hands-on involvement in diverse projects, leveraging cutting-edge technologies and agile development methodologies, set the stage for his profound insights into the digital realm.

Notably, his proficiency in executing projects on Microsoft Technologies became a hallmark of his career, reflecting his adaptability and commitment to staying at the vanguard of change.

A witness to the seismic shifts within the software development landscape, Ramana Bhupathi is resolute in his belief that the forthcoming decade will usher in even more rapid transformations. In his astute perspective, the IT workforce must embrace a culture of perpetual upskilling and reskilling to navigate this era of accelerated change.

Mr. Bhupathi's journey is characterized by a passion for cultivating enterprises rooted in emerging technologies. His endeavors have been focused on crafting platforms that not only resonate with the needs of today but also create a positive societal impact. His affinity for startups, each driven by a dedication to scalable solutions powered by Artificial Intelligence and Data Science, underscores his commitment to innovation.

Beyond the boardroom, Mr. Bhupathi's impact extends to the realm of education. His mentorship has illuminated the path for over 10,000 students and professionals, steering them toward lucrative careers in technology. With an unwavering calling to guide future tech talent, he embraced his true purpose, transitioning from the corridors of corporate leadership to the forefront of education. Today, his energy is channeled into honing the skills of young minds, immersing them in the nuances of new-age technologies through comprehensive training and impactful corporate programs.

Join us on an enlightening journey through the pages of this book, as Ramana Bhupathi's profound insights and guidance illuminate the ever-evolving landscape of Information Technology. His wisdom serves as a beacon for both novices and seasoned professionals, reminding us all that in the midst of change lies unparalleled opportunity.

- ✔ Software Testing Fundamentals
- ✔ Chatbot Architecture and Components
- ✔ Chatbot Testing Techniques
- ✔ Chatbot Test Automation
- ✔ Machine Learning Fundamentals
- ✔ AI/ML Model Testing Techniques
- ✔ AI/ML Model Test Automation
- ✔ Computer Vision Fundamentals
- ✔ Computer Vision Testing Techniques
- ✔ Computer Vision Test Automation
- ✔ Overview of AI Testing Tools
- ✔ Hands-on with Selected Tools
- ✔ Ethical Considerations in AI Testing
- ✔ AI Security Testing
- ✔ AI Certification Preparation

# AI TESTING



## Introduction to AI Concepts

- ↳ Defining AI
- ↳ ML
- ↳ DL
- ↳ NLP
- ↳ Common AI algorithms  
(Regression, Classification, Clustering, etc.)
- ↳ Applications of AI ( Chatbots, recommendation systems, computer vision, etc.)"



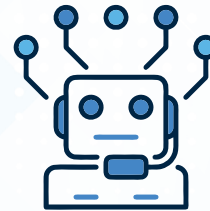
## Software Testing Fundamentals

- ↳ Test planning, design, execution;
- ↳ Types of tests (functional, non-functional, regression, etc.);
- ↳ Test methodologies (Waterfall, Agile, DevOps)"



## Chatbot Architecture & Components

- ↳ Understanding chatbot types  
(rule-based, retrieval-based, generative)
- ↳ NLU (intent recognition, entity extraction)
- ↳ Dialog management and response generation



## Chatbot Testing Techniques

- ↳ Functional testing (conversation flow intent recognition accuracy, etc.)
- ↳ Usability testing  
(user experience, ease of interaction, etc.)
- ↳ Security testing
- ↳ Performance testing (response time, scalability)

## Chatbot Test Automation

- ↳ Using chatbot testing frameworks  
(Botium, Rasa X)
- ↳ Automating conversations  
simulating user interactions
- ↳ Integrating with CI/CD



## Machine Learning Fundamentals

- ↳ Supervised, unsupervised & reinforcement learning
- ↳ Model training, validation, evaluation;
- ↳ Common ML algorithms (linear regression, logistic regression, decision trees, etc.)



## AI/ML Model Testing Techniques

- ↳ Data quality assessment (bias detection, data imbalance, etc.)
- ↳ Model performance evaluation (accuracy, precision, recall, etc.)
- ↳ Model robustness testing (adversarial attacks, out-of-distribution data)
- ↳ Explainability testing (LIME, SHAP)



## AI/ML Model Test Automation

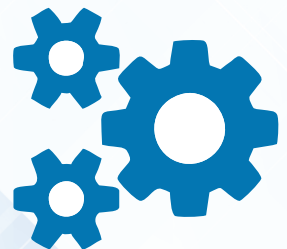
- ↳ Model monitoring and drift detection
- ↳ Automating model retraining and deployment
- ↳ Integrating with MLOps

## Computer Vision Fundamentals

- ↳ Image processing basics (filtering, transformations, etc.)
- ↳ Computer vision tasks (object detection, classification, etc.)
- ↳ Popular CV libraries (OpenCV, TensorFlow, PyTorch)

## Computer Vision Test Automation

- ↳ Automated image/video testing (Applitools)
- ↳ Synthetic data generation
- ↳ Integrating with CI/CD



## Overview of AI Testing Tools

- ↳ Test automation (Botium, Testim, etc.)
- ↳ Model monitoring/explainability (Fiddler, What-If Tool, etc.)
- ↳ Data labeling (Labelbox, Prodigy)

## Hands-on with Selected Tools

- ↳ Practical exercises and projects using various AI testing tools

## Ethical Considerations in AI Testing

- ↳ Bias, fairness, accountability, privacy, security, transparency, explainability

## AI Security Testing

- ↳ Threats and vulnerabilities
- ↳ Testing for data poisoning and model evasion attacks
- ↳ Security best practices

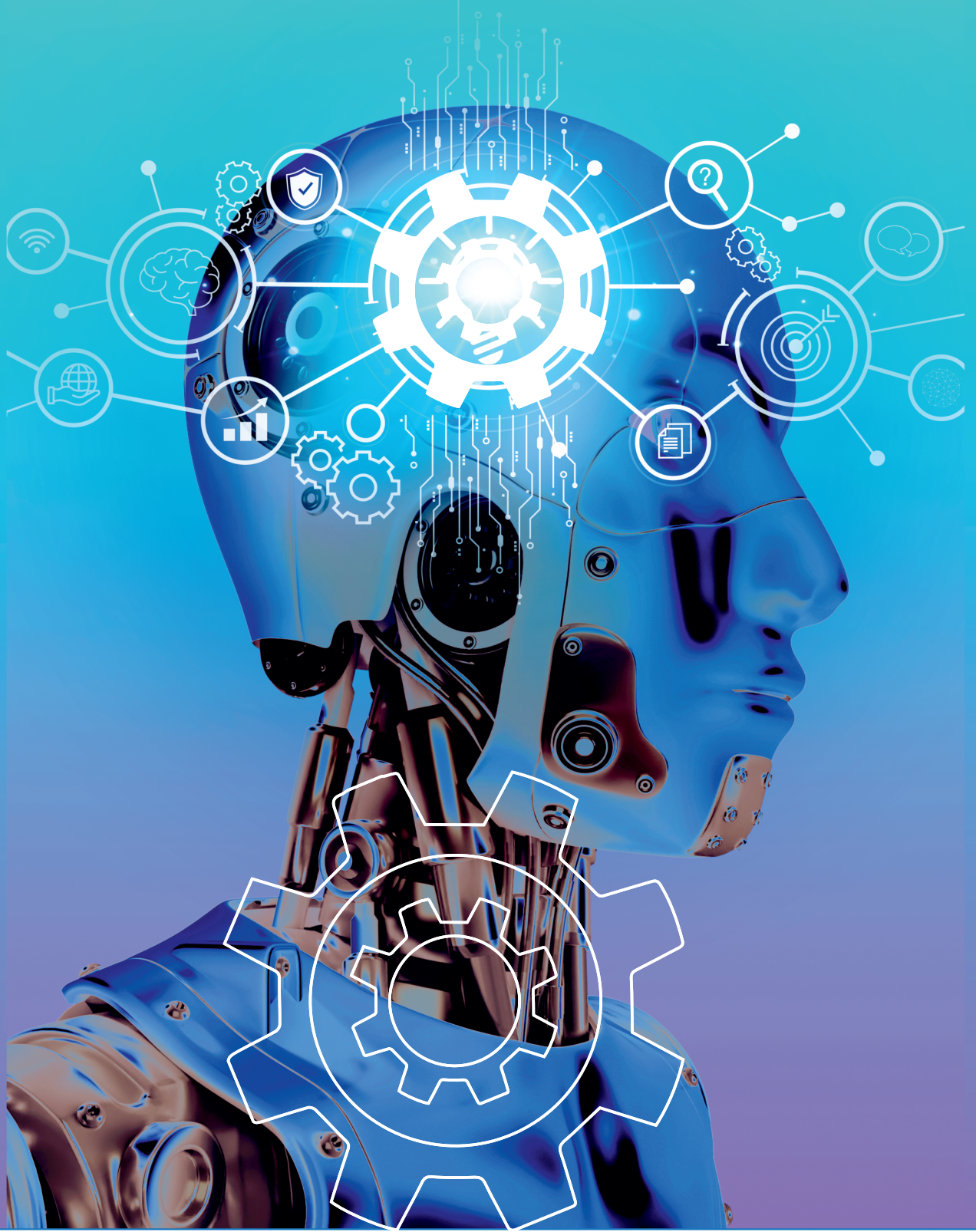
## AI Certification Preparation

- ↳ Overview of ISTQB Certified Tester AI Testing syllabus
- ↳ Practice exams and study materials

### Assessment

- ↳ Quizzes
- ↳ assignments
- ↳ hands-on projects
- ↳ capstone project  
(comprehensive test strategy for an AI application)
- ↳ optional ISTQB certification exam





**Our Students  
Are Placed In**


**QualityThought<sup>®</sup>**  
Transforming Dreams! Redefining Future!

☎ | 📞 81069 61963

**Quality Thought Infosystems India (P) Ltd.**

#302, Nilgiri Block, Ameerpet, Hyderabad-500016 | [www.qualitythought.in](http://www.qualitythought.in) | [info@qualitythought.in](mailto:info@qualitythought.in)