Start Date: April 11, 2026 | Duration: 4 Months (Every Saturday) | Time: 2:00PM – 6:00PM (PKT) | Venue: PDC-NUST-PNEC


COURSE OVERVIEW

The Certified Artificial Intelligence Practitioner Professional (CAIPP) program is a comprehensive, practice-oriented certification designed to build strong foundations and applied expertise in Artificial Intelligence. The course covers the complete AI lifecycle—from Mathematical Foundations and Machine Learning to Deep Learning, NLP, Reinforcement Learning and MLOps. With hands-on labs every week and an industry-focused capstone project, CAIPP prepares participants to design, develop, evaluate and deploy real-world AI solutions.
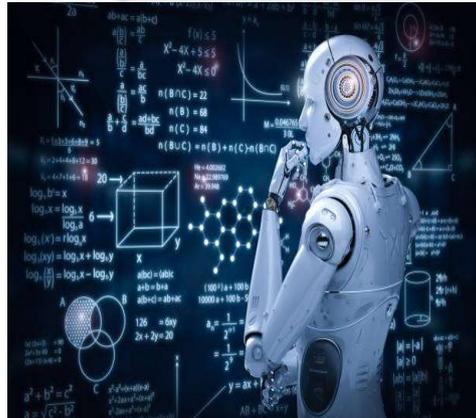
The CAIPP program emphasizes real-world problem solving and industry relevance, blending theory with extensive hands-on implementation using modern AI tools, frameworks and cloud platforms. Participants gain practical experience in data preparation, model selection, training, evaluation, optimization and deployment along with best practices for scalability, ethics and responsible AI. Through case studies, guided labs and a mentored capstone project, learners develop the confidence and competence to translate business requirements into production-ready AI systems, positioning them for roles such as AI Engineer, Machine Learning Engineer, Data Scientist and AI Solutions Architect.

LEARNING OUTCOMES

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

- ☐ Understand core AI, Machine Learning and Deep Learning concepts and industry applications
- ☐ Build and evaluate Supervised/ Unsupervised Machine Learning models
- ☐ Develop Deep Learning models for Computer Vision and Natural Language Processing
- ☐ Apply Transformers, Embedding and Large Language Model (LLM) concepts
- ☐ Implement Data Pipelines, Feature Engineering and model optimization techniques
- ☐ Deploy AI models using modern MLOps and deployment frameworks
- ☐ Apply responsible AI principles including fairness, explainability and governance
- ☐ Design and present an end-to-end AI capstone project aligned with industry standards

BODY OF KNOWLEDGE

The CAIIP curriculum covers the following knowledge area:

- ☐ Introduction to Artificial Intelligence and AI Professional Landscape
- ☐ Mathematical Foundations for AI (Probability, Linear Algebra, Optimization)
- ☐ Machine Learning Fundamentals (Supervised, Unsupervised, Reinforcement Learning)
- ☐ Data Engineering, Feature Engineering and Data Pipelines
- ☐ Regression, Classification and Tree-Based Models
- ☐ Deep Learning Fundamentals and Neural Networks
- ☐ Unsupervised Learning and Dimensionality Reduction
- ☐ Computer Vision using Convolutional Neural Networks (CNNs)
- ☐ Natural Language Processing, Transformers and Large Language Models
- ☐ Prompt Engineering, Fine-Tuning, and RLHF Concepts
- ☐ Reinforcement Learning (Practitioner Overview)
- ☐ Explainable AI, Fairness and Responsible AI Frameworks
- ☐ AI Deployment, MLOps, CI/CD and Model Monitoring
- ☐ Industry Use Cases and Full-Stack AI Product Development
- ☐ Capstone Project Implementation and Presentation

WHO IS THIS COURSE FOR?

This program is ideal for:

- ☐ IT professionals, Software Engineers and Developers seeking AI expertise
- ☐ Data Analysts, Data Scientists and Business Analysts
- ☐ Engineering, Computer Science and technology students
- ☐ Managers, team leads and entrepreneurs leveraging AI for business innovation
- ☐ Researchers and Academicians interested in applied AI
- ☐ Professionals from non-technical backgrounds transitioning into AI
- ☐ Anyone aspiring to build a career in Artificial Intelligence

KEY FEATURES

- ☐ Onsite, Instructor-led training at PDC-NUST-PNEC
- ☐ 16 x week structured curriculum with 4 hours per week
- ☐ Hands-on labs in every module
- ☐ Real-world datasets and industry case studies
- ☐ Coverage of modern AI tools (Scikit-learn, TensorFlow, PyTorch, Hugging Face)
- ☐ Focus on deployment, MLOps and production-ready AI systems
- ☐ Capstone project with formal presentation and evaluation
- ☐ Practitioner-focused, industry-aligned learning approach

ELIGIBILITY REQUIREMENTS

- ☐ Educational Qualification: Bachelor's degree from a recognized institution
- ☐ Technical Foundation: Basic understanding of AI, Machine Learning, Data Sciences
- ☐ Field: Computer Science
- ☐ For professionals with experience in Data Science, Machine Learning and AI

ABOUT OUR TRAINERS

The CAIPP program is delivered by experienced AI practitioners and industry experts with strong academic and professional backgrounds. Trainers bring hands-on experience in Machine Learning, Deep Learning, NLP, MLOps and AI product development across multiple industries. Their teaching approach emphasizes real-world problem-solving, best practices and mentoring participants through practical labs and capstone projects.

ABOUT PIQC

PIQC Institute of Quality was established in 1991 by a group of Quality professionals dedicated to the field of Quality. Over the past three decades, the Institute has earned the national and international credibility and is considered Pakistan's leading and most authentic institute for professional development in the field of Quality.

ABOUT PDC NUST-PNEC

Professional Development Centre (PDC) is state of the art department at NUST-PNEC, established in 2007 committed to provide high quality industry-relevant training programs that empower students with knowledge and skills needed for professional growth and development. Our aim is to groom young students and professionals through experiential learning.

DISCOUNTS

Early bird registration, PIQC Alumni, PN/ NUST Students, Group nominations from the same organization.

FOR INFORMATION & REGISTRATION CONTACT:

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VENUE

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