## Get NVIDIA AI Certified: Strategies for Success With Live Q&A

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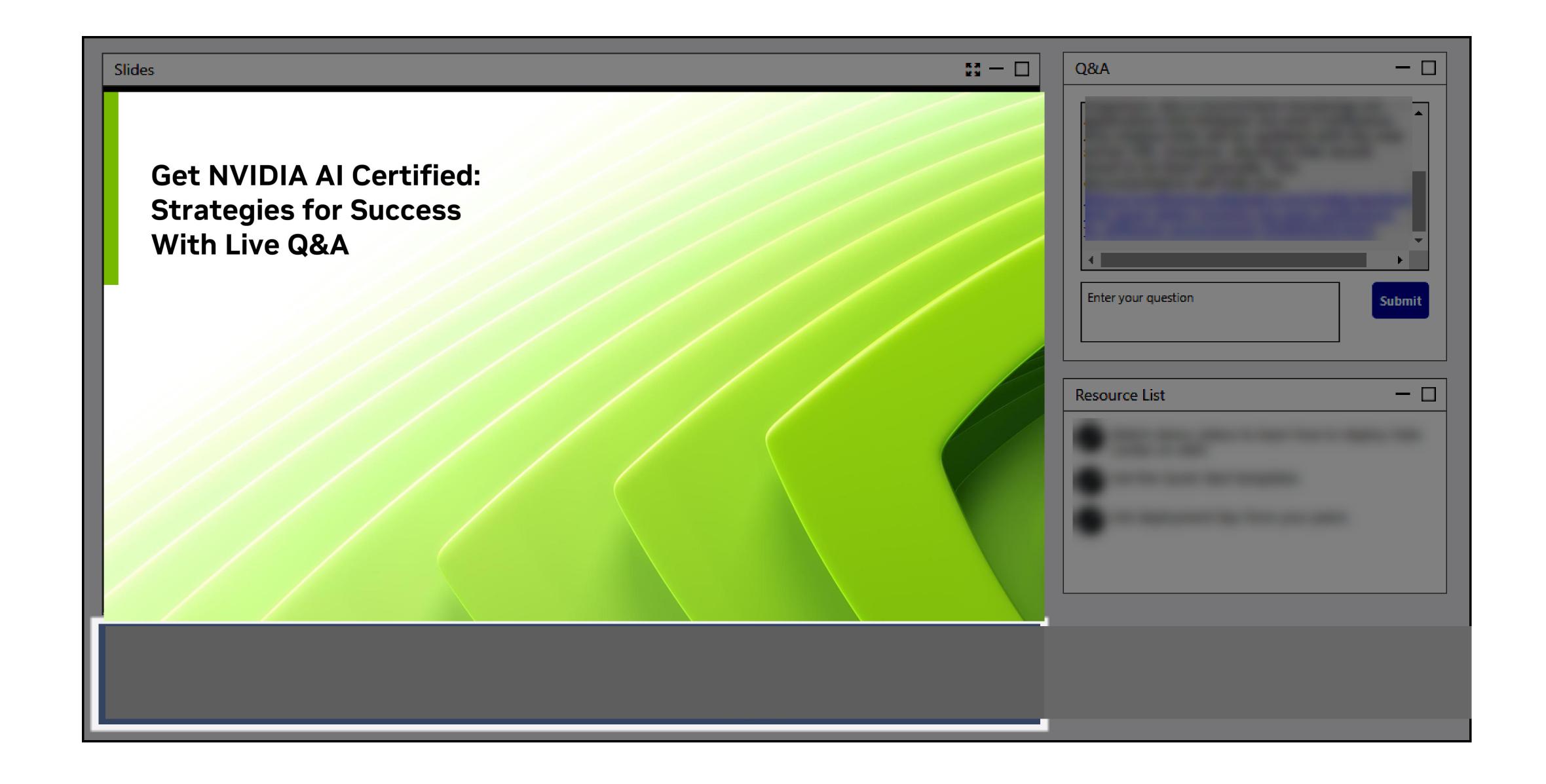
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## Before we begin...

- Questions? Please submit your questions in the Q&A window at any time
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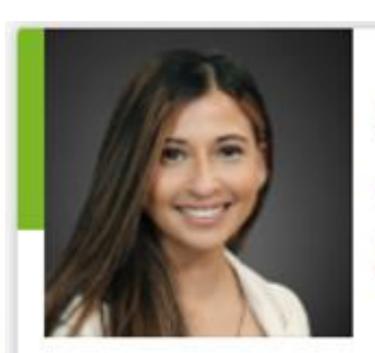


## Today's Speakers

## **NVIDIA Certification Team**



Marco Alves
Certification Manager
NVIDIA

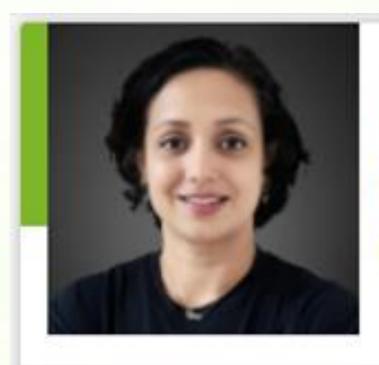


Aeshah Hadges
Certification Manager
NVIDIA



Gary Fluitt
Technical Certification Manager
NVIDIA

## **Guest Speakers**



Deepika Yammanur
Lead Technical Recruiter
NVIDIA



Vincent Granville
Chief Al Scientist / Cofounder
MLtechniques.com



Michael Fongemie
Senior Field Architect
Insight



## Topics

- Certification Program Overview
- Gen Al Certifications
- Infrastructure Certifications
- Roadmap
- Q&A

5

## **NVIDIA Certification**

Enables individuals to validate skills and distinguish themselves in the industry



Supports NVIDIA partners in workforce upskilling initiatives



Facilitates the recruitment of qualified professionals

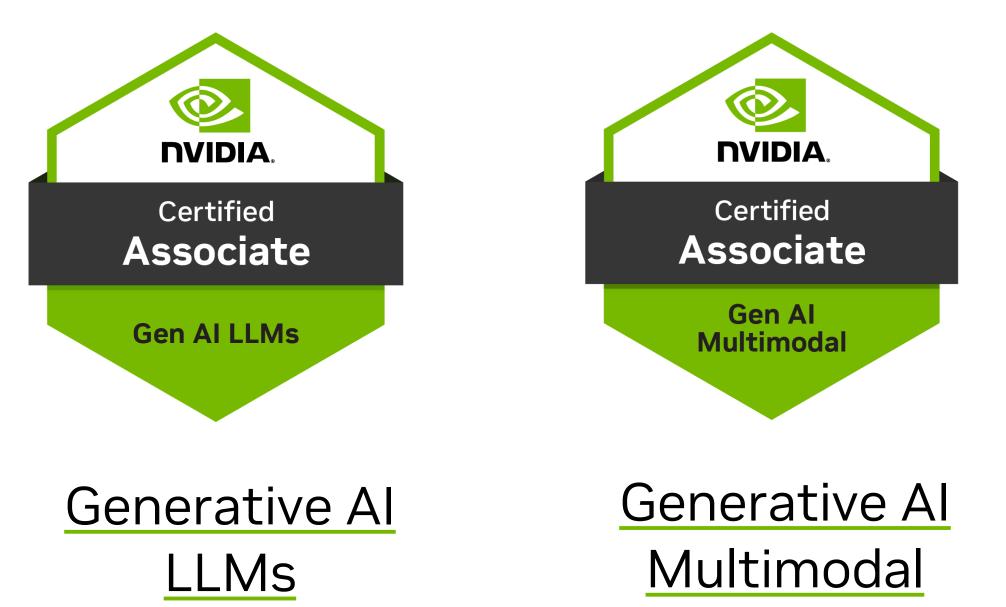


Prepares higher education students for the future of work

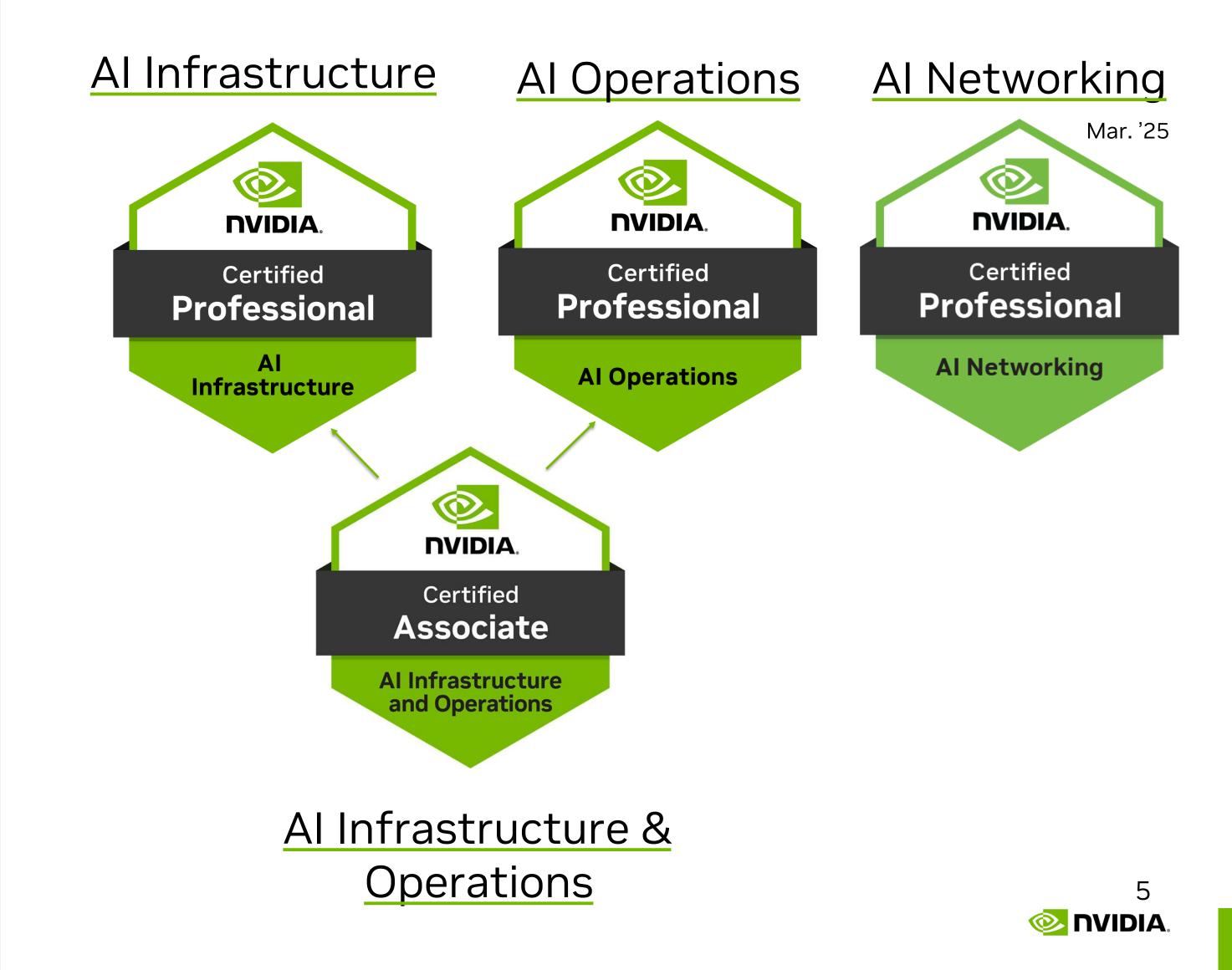


Demonstrates an individual's commitment to continuous learning

## Al Developers



## Al Infrastructure Professionals



# A Recruiter's Perspective Deepika Yammanur, Lead Technical Recruiter, NVIDIA

## Generative Al Certifications Aeshah Hadges, NVIDIA Certification

## 2 Certifications in Generative Al Suite

Geared toward developers





- NVIDIA-Certified Associate: Generative Al Large Language Models
- NVIDIA-Certified Associate: Generative Al Multimodal

## NCA-Generative AI LLMs Exam Overview

## **About This Certification**

The NCA Generative AI LLMs certification is an entry-level credential that validates the foundational concepts for developing, integrating, and maintaining AI-driven applications using generative AI and large language models (LLMs).

Audience: Al DevOps engineers, Al strategists, Applied data scientists,
 Applied data research engineers, Applied deep learning research scientists,
 Cloud solution architects

• **Duration**: 1 hour

• **Price**: \$125

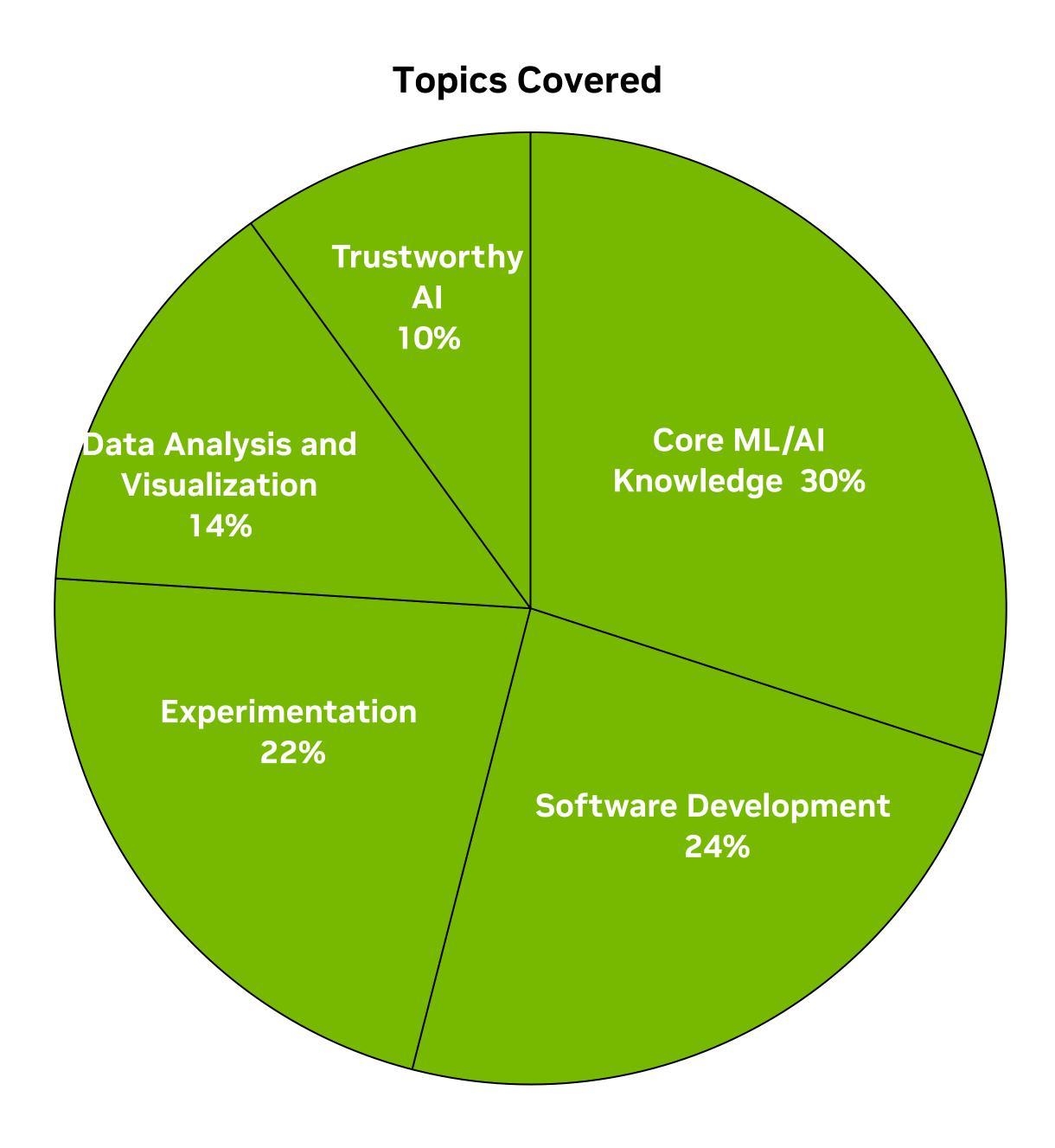
• Certification level: Associate

• Number of questions: 50-60 multiple choice questions

• Prerequisites: A basic understanding of generative Al and LLMS

• **Validity**: This certification is valid for two years from issuance. Recertification may be achieved by retaking the exam.

• Credentials: Participants will receive a digital badge and certificate



## NCA-Gen AI LLM Exam Preparation

Recommended Training: 40 hours

## **Exam Blueprint**

## Core ML and Al Knowledge 30%

 Knowledge of algorithms, conventions and techniques that allow computers to learn from and make predictions of decisions based on data

## Data Analysis 14%

 Inspecting, cleansing, transforming, and modeling data with the goal of discovering useful information, informing conclusions, and supporting decision-making.

## **Experimentation 22%**

• The study of how to perform, evaluate, and interpret experiments, including AI model evaluation and the use of reinforcement learning through human feedback (RLHF).

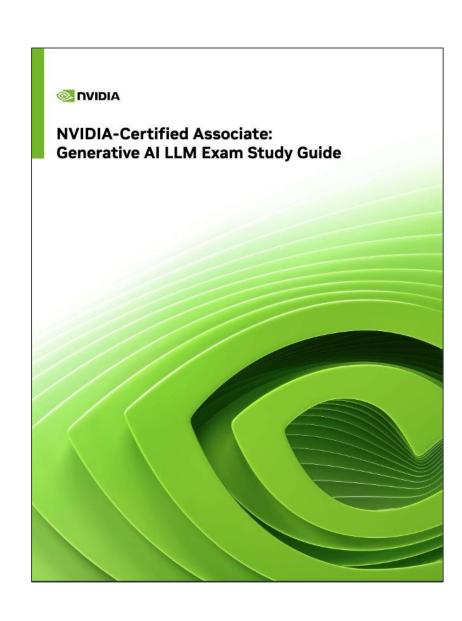
## **Software Development 24%**

Creation, maintenance, and testing of software.

## **Trustworthy AI 10%**

• Creation and assessment of ethical, energy-conscious, and reliable artificial intelligence systems capable of interpreting and integrating various forms of data, ensuring that they are designed and applied in a manner that is transparent, fair, and verifiable.

5 Courses	Instructor-Led Version	Self-Paced Version
Course 1	Fundamentals of Deep Learning	Getting Started with Deep Learning
Course 2	Fundamentals of Accelerated Data Science	Accelerating End-to-End Data Science Workflows
Course 3	Building Transformer-Based Natural Language Processing Applications	Introduction to Transformer-Based Natural Language Processing
Course 4	Rapid Application Development with Large Language Models	Rapid Application Development with Large Language Models
Course 5	Building LLM Applications With Prompt Engineering	Building LLM Applications With Prompt Engineering



## **Free Study Guide**

- Additional readings
- Detailed outline of exam objectives
- Course references for each section

## Sample Exam Question

## NCA-Generative Al Multimodal Exam Overview

## **About This Certification:**

The NCA Multimodal Generative AI certification is an entry-level credential that validates the foundational skills needed to design, implement, and manage AI systems that synthesize and interpret data across text, image, and audio modalities.

 Audience: Al DevOps engineers, Al strategists, Applied data research engineers, Applied data scientists, Applied deep learning research scientists, Cloud solution architects, Data scientists, Deep learning performance engineers, Generative Al specialists, Large language model (LLM) specialists and researchers, Machine learning engineers, Senior researchers, Software engineers, Solutions architects

• **Duration:** 1 hour

• **Price:** \$125

Certification level: Associate

Subject: Multimodal generative Al

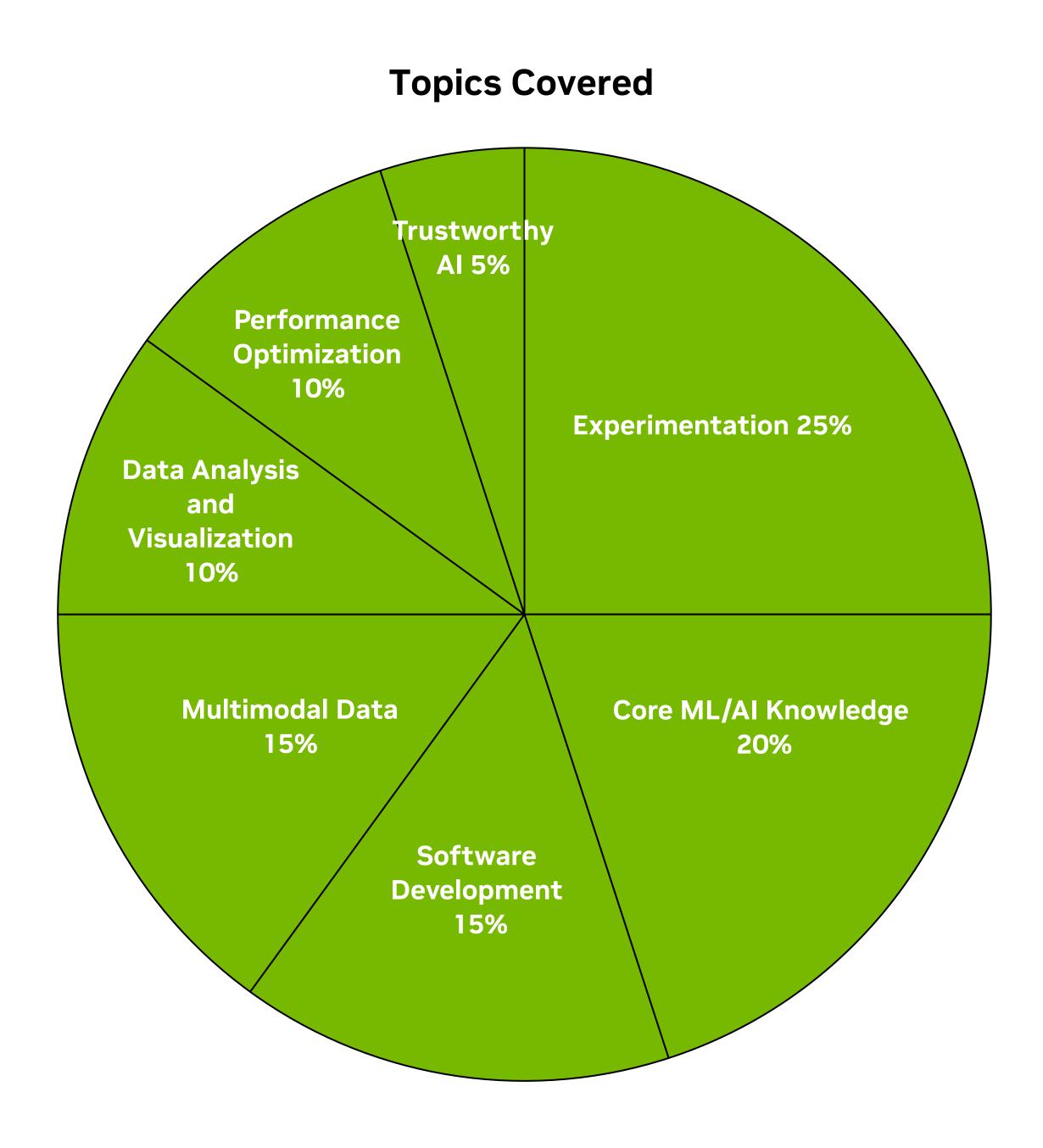
Number of questions: 50-60 multiple-choice

• Prerequisites: A basic understanding of generative Al

• Validity: This certification is valid for two years from issuance.

Recertification may be achieved by retaking the exam.

• Credentials: Participants will receive a digital badge and certificate



## NCA - Gen Al Multimodal Exam Preparation

Recommended Training: 40 hours

## **Exam Blueprint**

### Core ML and AI Knowledge 20%

 Knowledge of algorithms, conventions and techniques that allow computers to learn from and make predictions of decisions based on data

## Data Analysis 10%

 Inspecting, cleansing, transforming, and modeling data with the goal of discovering useful information, informing conclusions, and supporting decision-making.

### **Experimentation 25%**

• The study of how to perform, evaluate, and interpret experiments, including AI model evaluation and the evaluation of various model architectures.

### **Multimodal Data 15%**

• The integration, curation, and quality assessment of diverse data types such as text, images, audio, time-series, and geospatial information, while also addressing challenges related to missing or incomplete information across these different modalities.

## **Performance Optimization 10%**

 Refine multimodal AI models for energy efficiency, trustworthiness, and accuracy through design contributions, transfer learning content development, supervised training enhancements, hyperparameter tuning, rigorous testing, and computational advancements.

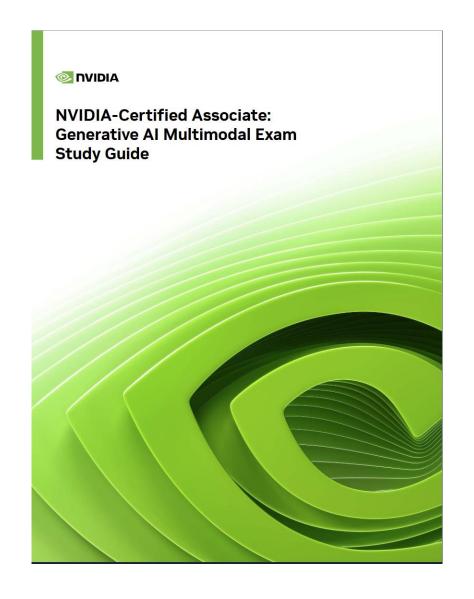
## **Software Development 15%**

Design and implement neural network architectures, such as U-Nets for generative image tasks, integrate text-to-image AI models like CLIP, and apply prompt engineering to refine and direct the generative capabilities of these systems. Includes familiarity with NVIDIA SDKs such as Riva, NeMo™, Triton™, and Avatar Cloud Engine (ACE).

## **Trustworthy AI 5%**

• Create and assess ethical, energy-conscious, and reliable artificial intelligence systems capable of interpreting and integrating various forms of data, ensuring that they are designed and applied in a manner that is transparent, fair, and verifiable.

5 Courses	Instructor-Led Version	Self-Paced Version
Course 1	Fundamentals of Deep Learning	Getting Started with Deep Learning
Course 2	Building Transformer-Based Natural Language Processing Applications	Introduction to Transformer-Based Natural Language Processing
Course 3	Building Conversational Al	
Course 4	Generative Al with Diffusion Models	Generative AI with Diffusion Models
Course 5	Building Al Agents With Multimodal Models	



## **Free Study Guide**

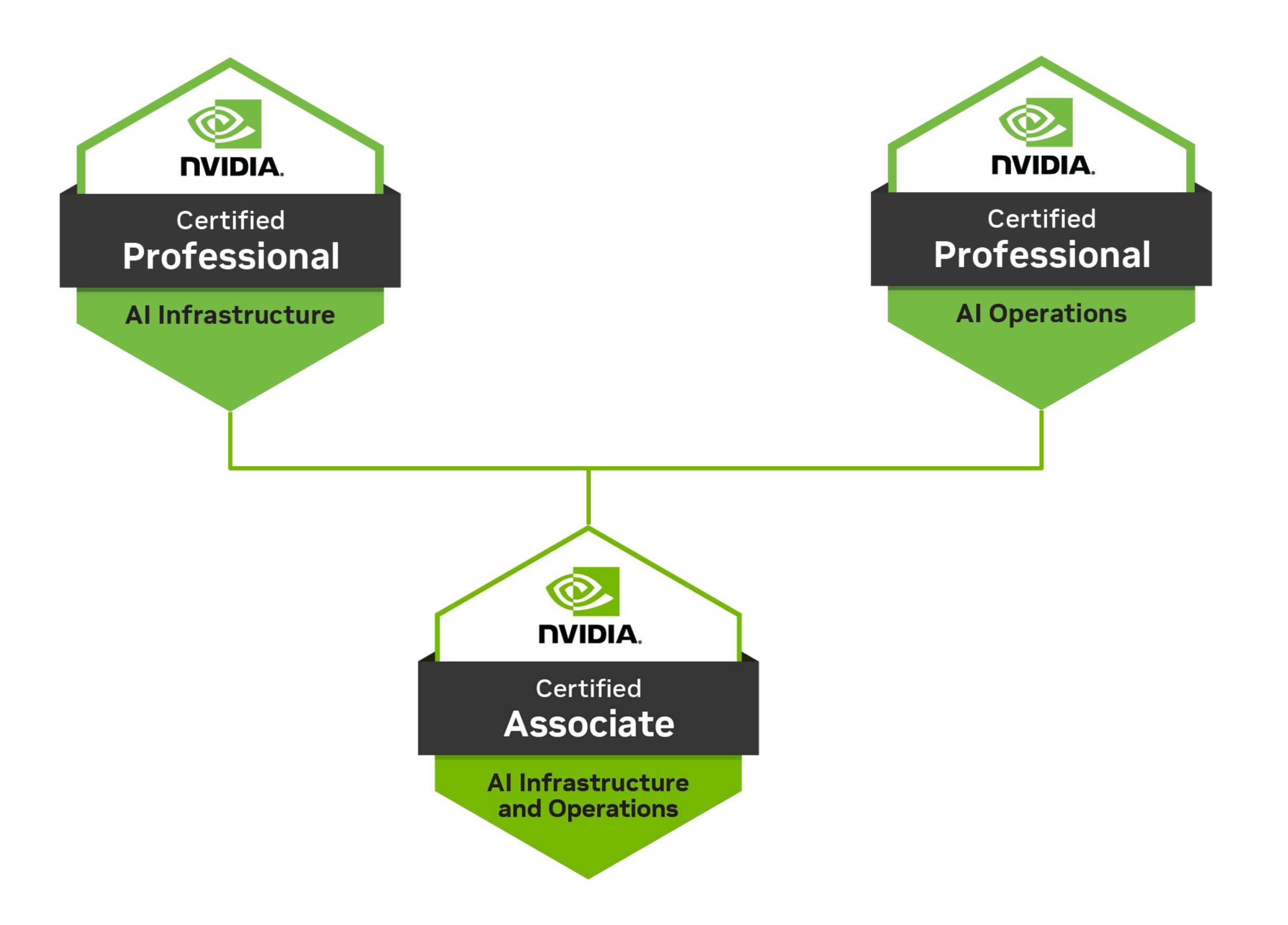
- Additional readings
- Detailed outline of exam objectives
- Course references for each section

## Sample Exam Question

## Hints & Tips From an Exam Taker Vincent Granville, Chief Al Scientist / Cofounder, MLtechniques.com

## Infrastructure Certifications Gary Fluitt, NVIDIA Certification

## 3 Certifications in Al Infrastructure Suite



## NCA - Al Infrastructure and Operations Exam Overview

## **About This Certification:**

An entry-level credential that validates the foundational concepts of AI computing related to infrastructure and operations.

 Audience: Business-line owners, Data center technicians, Delivery and professional services engineers, Developer operations (DevOps) engineers, IT managers, Networking engineers, Sales representatives, Systems administration staff, Solution architects, System architects

Duration: 1 hour

• **Price:** \$135

Certification level: Associate

Subject: Al Infrastructure and operations

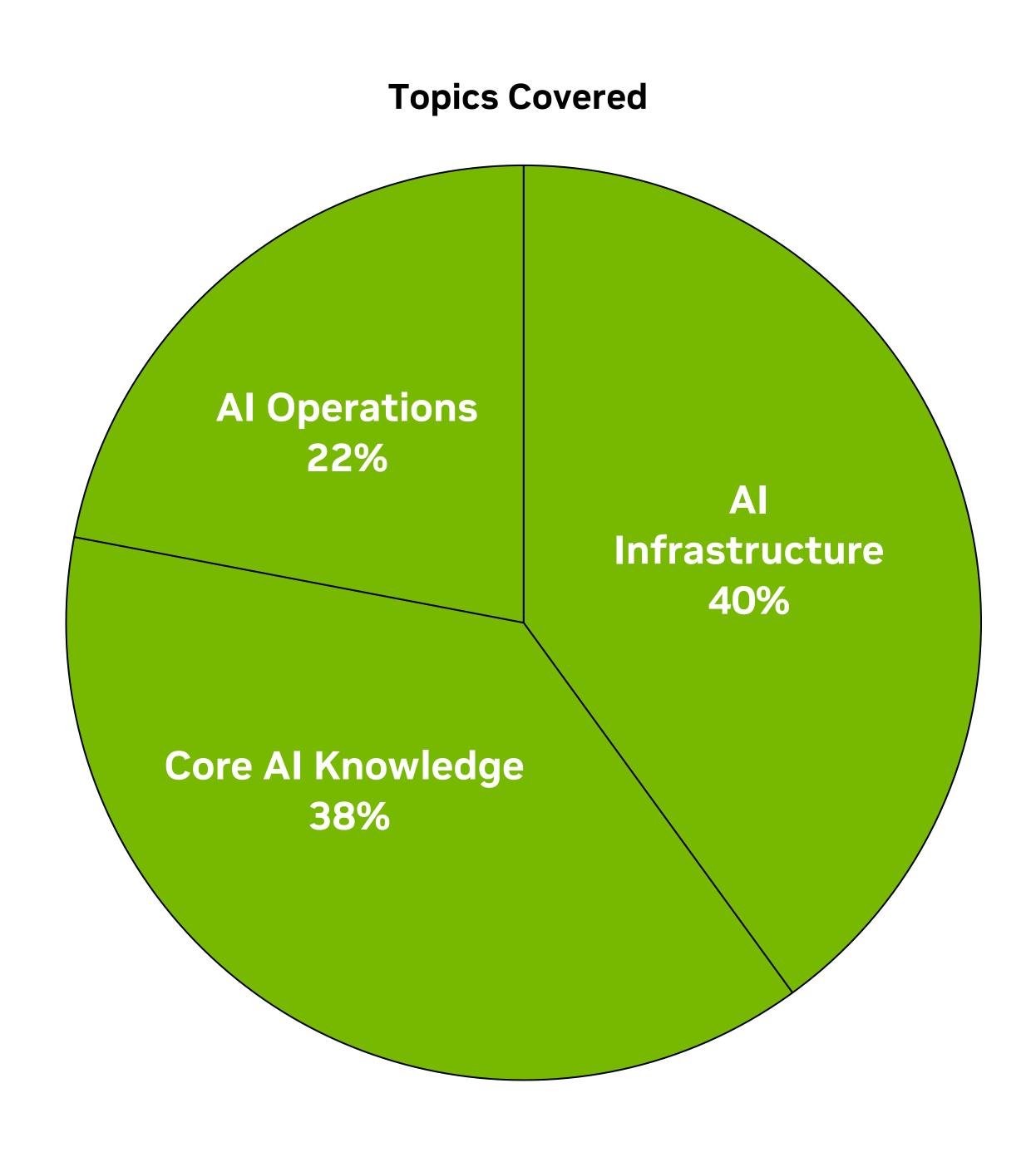
Number of questions: 50

• Prerequisites: A basic understanding of data center infrastructure

Validity: This certification is valid for two years from issuance.

Recertification may be achieved by retaking the exam.

• Credentials: Participants will receive a digital badge and certificate



## NCA-Al Infrastructure and Operations Exam Preparation

Recommended Training: 7 hours

## **Exam Blueprint**

## Core knowledge of AI 38%

- Al use cases and Industries driving Al adoption
- Basic understanding of AI, ML, DL
- Basic understanding NVIDIA software & solutions for AI

## Al Operations 22%

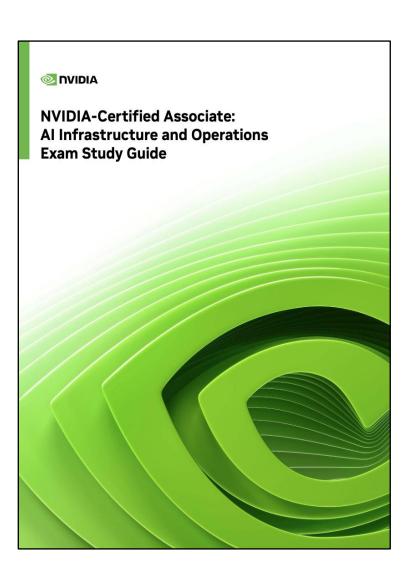
- Al data center management essentials
- Monitoring GPUs
- Virtualizing accelerated infrastructure
- Base Command Mgr., Slurm, Kubernetes

## Al Infrastructure 40%

- Hardware requirements for AI training tasks
- How to scale a GPU infrastructure
- On-prem vs cloud infrastructure differences
- How clusters an accelerated infrastructure works
- Basic networking requirements for AI workloads

1 Course

Al Infrastructure & Operations
Fundamentals
Self-Paced Course



## **Free Study Guide**

- Additional readings
- Detailed outline of exam objectives
- Course references for each section

## NCP - Al Infrastructure Exam Overview

## **About This Certification**

Intermediate-level credential that validates a candidate's ability to deploy, manage, and maintain AI infrastructure by NVIDIA.

• Audience: Data center administrators, Infrastructure administrators, MLOps Engineers, Network Administrators, Network Engineers, Storage Administrators, System Administrators, Solution Architects

• **Duration:** 90 minutes

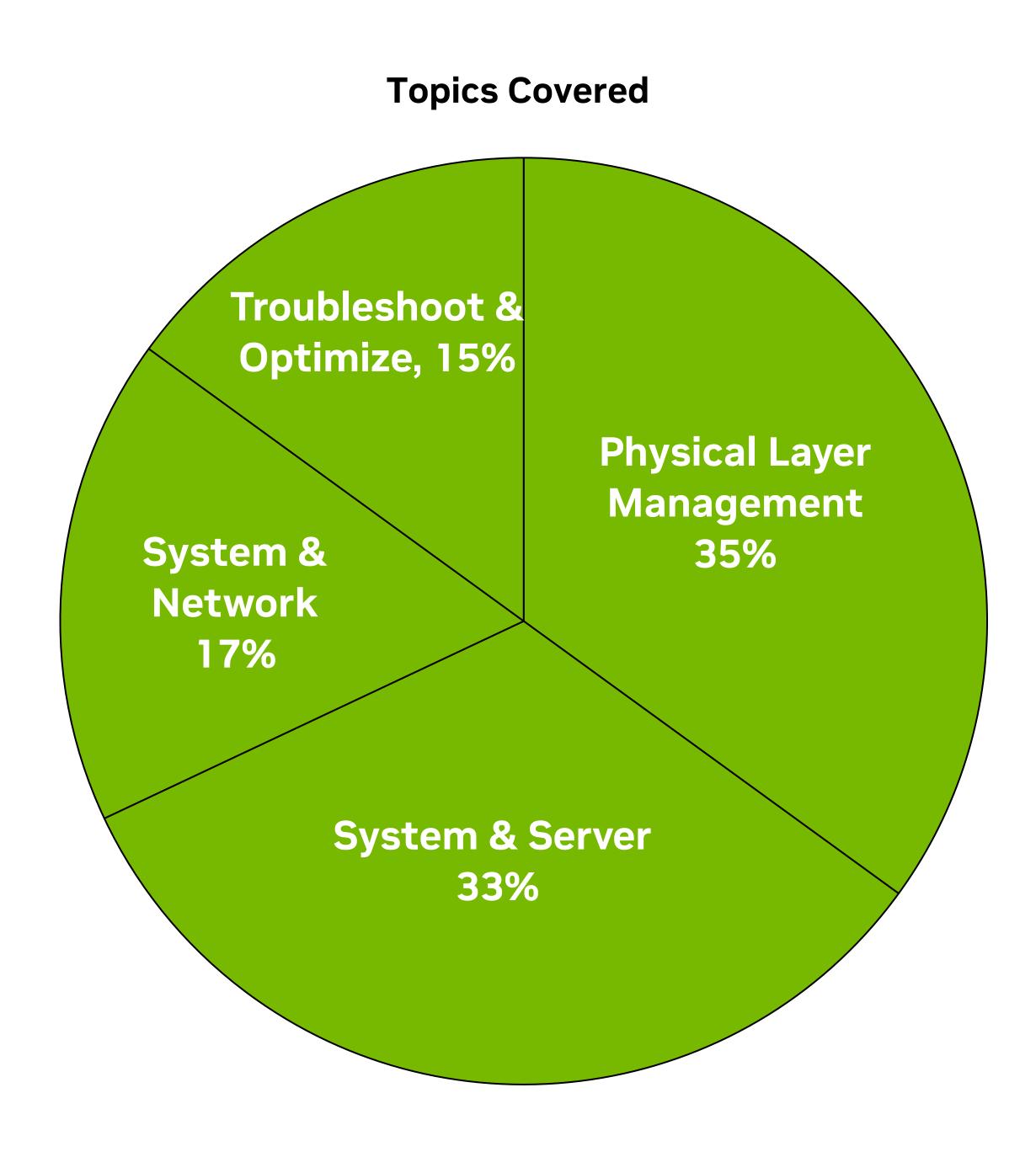
• **Price:** \$400

• Certification level: Professional

• Subject: Al Infrastructure

• Number of questions: 60-70

- **Prerequisites:** Two to three years of operational experience working in a data center with NVIDIA hardware solutions. The candidate should be able to deploy all the parts of a data center infrastructure in support of AI workloads.
- Validity: This certification is valid for two years from issuance. Recertification may be achieved by retaking the exam.
- Credentials: Participants will receive a digital badge and certificate



## NCP-Al Infrastructure Exam Preparation

Recommended Training: 35 hours

## **Exam Blueprint:**

## Physical Layer Mgt. 35%

- Install/update/remove NVIDIA GPU drivers
- How to use NVIDIA GPU's with Docker
- Install NGC CLI on hosts, configure and manage a Bluefield Network Platform

## System & Server 33%

 Validate power & cooling, Install GPU based server, Bluefield DPU based server, physical GPU, storage requirements

## System & Network 17%

- Identify & Setup network topologies for datacenters
- Install/Configure NVIDIA NVLink Switch, routing tables on Infiniband & Mellanox hardware

## **Troubleshoot and Optimize 15%**

Storage Optimization, Identify and troubleshoot faulty cards/GPUs/power supplies

2 Courses	Course	
Course 1	Al Infrastructure & Operations Fundamentals Self-paced Course	
Course 2	Al Infrastructure Professional Instructor-led Workshop	

Study Guide – Coming soon

## NCP - Al Operations Exam Overview

## **About This Certification**

Intermediate-level credential that validates a candidate's ability to monitor, troubleshoot, and optimize Al infrastructure by NVIDIA.

• Audience: MLOps engineers, DevOps engineers, Solution architects, System architects, Al Infrastructure engineers

• **Duration:** 120 minutes

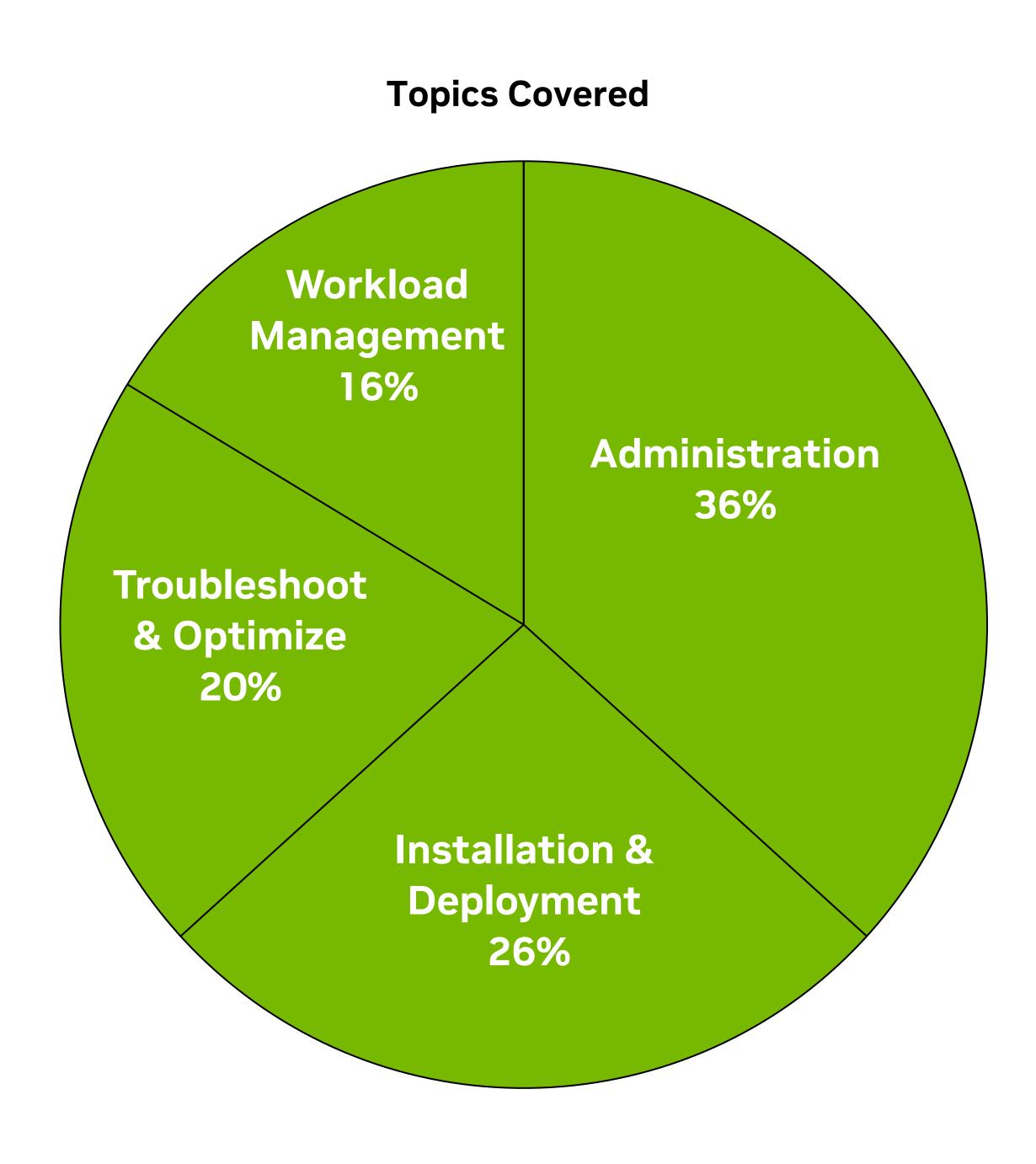
• **Price:** \$400

• Certification level: Professional

Subject: Al Operations

• Number of questions: 60-70

- **Prerequisites:** Two to three years of operational experience working in a data center with NVIDIA hardware solutions. The candidate should be able to monitor and manage all the parts of a data center infrastructure in support of AI workloads.
- Validity: This certification is valid for two years from issuance. Recertification may be achieved by retaking the exam.
- Credentials: Participants will receive a digital badge and certificate



## NCP-Al Operations Exam Preparation

Recommended Training: 31 hours total

## **Exam Blueprint:**

## **Administration 36%**

- Administer Fleet Command
- Administer Slurm cluster
- Understand data center architecture for AI workloads
- Administer Base Command Manager (BCM) and cluster provisioning
- Administer Run.ai (potentially part of ACM)
- Configure MIG (for Al and HPC)

## Workload Management 16%

- Administer Kubernetes cluster
- Use system management tools to troubleshoot issues

## Installation and Deployment 26%

- Install and configure BCM
- Install and initialize Kubernetes on NVIDIA hosts using BCM
- Deploy containers from NGC
- Deploy cloud VMI containers
- Understand storage requirements for AI data centers
- Deploy DOCA services on DPU Arm

## **Troubleshooting and Optimization 20%**

- Troubleshoot docker
- Troubleshoot the fabric manager service for NVIDIA NVIInk™/NVswitch™ systems
- Troubleshoot BCM
- Troubleshoot Magnum IO components

2 Courses	Course	
Course 1	Al Infrastructure & Operations Fundamentals Self-paced Course	
Course 2	Al Operations Professional Instructor-led Workshop	

Study Guide – Coming soon

## Sample Exam Question

## How Are Certification Exams Created? Michael Fongemie, Senior Field Architect, Insight

## **Upcoming Certifications**

## Al Infrastructure roles Al Infrastructure Al Operations Mar. '25 Al Networking EOL Feb. '25 InfiniBand

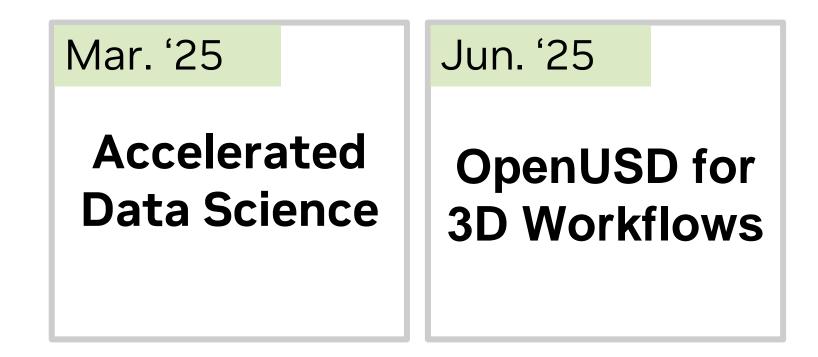
AI

Infrastructure

and

**Operations** 

Developers, Data Scientists, Tech Artists





Based on NVIDIA HW & SW Solutions,

Designed for Al Infrastructure Roles at Customers, Partners and General Public

Associate

Based on Application Requirements for Accelerated Computing, Al, and Related Workloads

Designed for Al Developer Roles at Customers, Partners and General Public





## Special Promotions

- 50% off any certification exam for webinar attendees. Use the code WEBINAR50 by February 1st to book your exam, take the exam within 2 months.
- 50% off select February-March Al Infrastructure and Operations <u>Public Professional Workshops</u>
- Free NVIDIA GTC on-site certification exam included in the conference registration fee. <u>Learn more</u>.



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