

GLOBALLY RECOGNIZED · VENDOR-NEUTRAL · ANSI-ALIGNED

Certified AI Engineering Professional

— (CAIEP)

Become a Globally Recognized AI Engineering Professional

Earn the CAIEP credential — build the full production stack: LLM applications, prompt engineering, embeddings, RAG, AI agents, MCP, evaluation, guardrails, LLMOps, and cloud deployment. **Enroll today.**



4.8/5 Reviews.io (96%) · 4.4/5 Trustpilot · 2,50,000+ certified

Enroll at gsdcouncil.org/ai-engineering-certification

Why This Certification, Why Now

Every team has shipped an AI demo; very few have one that survives production. The scarce skill isn't calling a model — it's engineering retrieval, agents, evaluation, and operations so the system stays accurate, safe, and affordable at scale.



Demos don't survive production

Hallucination, latency, token cost, and brittle prompts surface the moment real users arrive — engineering discipline is what closes the gap.



RAG and agents are the new default

Retrieval, reranking, tool calling, and multi-agent workflows are what turn a model into a system that knows your data and acts on it.



MCP is standardising how AI connects

Model Context Protocol is becoming the integration layer between agents, tools, and enterprise data — and it needs secure production architecture.



Evaluation and LLMOps decide what ships

Groundedness checks, guardrails, tracing, versioning, and cost monitoring are what get AI past security review and into production.

FROM THEORY TO PRACTICE

What You'll Be Able to Do



Explain transformers, attention, tokens, and context windows, and select the right LLM for each workload



Build LLM applications with APIs, structured outputs, function calling, routing, and fallbacks



Apply prompt and context engineering, and adapt models with fine-tuning, LoRA, and PEFT



Design semantic and hybrid search with embeddings, vector databases, and metadata filtering



Build end-to-end and advanced RAG pipelines with query rewriting, reranking, and source citations



Engineer tool-using and multi-agent systems with memory, planning, and human-in-the-loop controls



Integrate agentic RAG and MCP into secure, production-grade AI architectures



Evaluate, secure, deploy, and monitor AI applications with guardrails, LLMOps, Docker, and CI/CD

Why GSDC

**4.4 / 5**

Trustpilot · Excellent

**4.8 / 5**

Reviews.io · 96% recommend

2,50,000+

professionals certified

500+

Fortune clients

190+

countries served

Since 2016

US · SG · Switzerland



Independent, vendor-neutral certification body established in 2016 — offices in the US, Singapore, and Switzerland.



Accredited by ABICB (Accreditation Board for International Certification Bodies) and a proud member of ANSI.



Alumni work at 500+ Fortune companies across 190+ countries; 100+ Authorized Training Partners worldwide.



Certification built and reviewed with AI engineers, ML architects, and technology leaders building production AI systems.

RECOMMENDED BY

Forbes · Indeed · TechTarget · CareerSidekick · LeanIX · People Managing People · Authentic

**ABICB Accredited****ANSI Member****Vendor-Neutral**Read verified reviews: trustpilot.com/review/gsdccouncil.org · reviews.io

Our Global Clients

Professionals across technology, software, data, cloud, and enterprise engineering hold GSDC certifications.

Oracle**Amazon****Microsoft****Cisco****Veritas****HP****Bank of America****Deloitte****Volkswagen**

IS THIS FOR YOU?

Who Is This Certification For?

- AI engineers, ML engineers, and Generative AI developers
- Software developers and software engineers moving into AI
- Data scientists and data engineers building AI-ready pipelines
- AI/ML architects, cloud engineers, and technical architects
- DevOps and MLOps professionals running AI in production
- Technology managers, AI product managers, and professionals transitioning into AI engineering

PRE-REQUISITES

There are no mandatory prerequisites. A basic understanding of AI, programming, software development, or machine learning concepts is beneficial, but no formal AI engineering background is required — the program builds from AI fundamentals and focuses on practical LLM application development, RAG, AI agents, evaluation, and production deployment.

Learn from Experts

Learn from experienced practitioners and industry leaders who design, update, and teach the program — bringing real-world AI engineering, cloud, and production AI expertise to every module.



Maxim Salnikov
MICROSOFT

Digital and App Innovation Business
Lead, Western Europe



Trevor Wiseman
THE CIRCUIT

VP of Technology & AI Governance



Swathi Adimulam
ORACLE

OCI Cloud & AI Architect



Hayk Hakobyan
INSIGHTGENIE

Co-Founder



Baris Dirim
CULTUREASY

Human Systems Architect

What You'll Learn

16+ hours across 12 modules following the AI engineering lifecycle — from transformer fundamentals through to a deployed, evaluated capstone — with hands-on builds and Learn-By-Doing activities in every module.

1

AI Engineering Foundations

AI, ML and GenAI fundamentals; the AI engineer's role and modern ecosystem

2

Transformers & Large Language Models

Attention, tokens, context windows, and choosing the right model

3

LLM Application Engineering

APIs, parameters, structured outputs, tool calling, routing and fallbacks

4

Prompt Engineering & Model Adaptation

Few-shot, chaining, context engineering, fine-tuning, LoRA and PEFT

5

Embeddings & Vector Databases

Embedding models, similarity search, metadata filtering, hybrid search

6

RAG Engineering

Loading, chunking, indexing, retrieval, citations — and an end-to-end build

7

Advanced RAG Engineering

Query rewriting, reranking, multi-source, corrective, adaptive and GraphRAG

8

AI Agents & Tool Use

Planning, memory, workflows, human-in-the-loop and multi-agent systems

9

Agentic RAG & MCP

Agent-controlled retrieval, MCP integration, production architecture & security

10

AI Evaluation, Security & Guardrails

LLM, RAG and agent evals, LLM-as-a-judge, prompt injection, guardrails

11

LLMOps & Production AI

Versioning, tracing, observability, cost monitoring, Docker, cloud and CI/CD

12

Capstone Project

Architect, build, evaluate and deploy a RAG + agent + MCP application

Module-by-Module

Module 1 — AI Engineering Foundations

- Artificial Intelligence Foundations
- Machine Learning Fundamentals
- Generative AI Fundamentals
- Role of an AI Engineer
- Modern AI Engineering Ecosystem

Module 3 — LLM Application Engineering

- Working with LLM APIs
- Model Parameters
- System & User Prompts
- Structured Outputs
- Function & Tool Calling
- Context Management
- Routing & Fallbacks

Module 5 — Embeddings & Vector Databases

- Understanding Embeddings
- Embedding Models
- Semantic & Similarity Search
- Vector Databases
- Metadata Filtering
- Dense, Sparse & Hybrid Search

Module 7 — Advanced RAG Engineering

- Advanced Chunking
- Query Rewriting
- Hybrid Retrieval
- Metadata-Based Retrieval
- Reranking
- Context Optimization
- Conversational & Multi-Source RAG
- Corrective, Adaptive & GraphRAG

Module 9 — Agentic RAG & MCP

- Traditional vs Agentic RAG
- Agent-Controlled Retrieval
- Dynamic Knowledge Retrieval
- Tool-Based Retrieval
- MCP Fundamentals
- MCP Integration
- MCP Production Architecture & Security

Module 11 — LLMops & Production AI

- LLMops Fundamentals
- Prompt & Model Versioning
- Logging & Tracing
- AI Observability
- Token, Latency & Cost Monitoring
- Model Serving
- Docker & Cloud Deployment
- CI/CD for AI Applications
- Performance, Cost & Reliability

Module 2 — Transformers & Large Language Models

- Transformer Fundamentals
- Attention & Self-Attention
- Tokens & Context Windows
- Large Language Models
- Model Selection

Module 4 — Prompt Engineering & Model Adaptation

- Prompt Engineering Fundamentals
- Zero-Shot & Few-Shot Prompting
- Prompt Templates & Chaining
- Context Engineering
- Fine-Tuning Fundamentals
- LoRA & PEFT

Module 6 — RAG Engineering

- RAG Fundamentals & Architecture
- Document Loading & Parsing
- Document Chunking
- Embedding & Indexing
- Vector Retrieval
- Context Augmentation
- Source Citations
- End-to-End RAG Build

Module 8 — AI Agents & Tool Use

- AI Agent Fundamentals
- Agent Architecture
- Agent Planning & Decision Making
- Tool & Function Calling
- Agent Memory & State
- Agent Workflows
- Human-in-the-Loop
- Multi-Agent Systems
- Build a Tool-Using Agent

Module 10 — AI Evaluation, Security & Guardrails

- LLM Evaluation
- RAG Evaluation
- Agent Evaluation
- Hallucination & Groundedness
- LLM-as-a-Judge
- AI Guardrails
- Prompt Injection Protection
- Data Privacy, Responsible AI & Risk Management
- AI Application Security Risks

Module 12 — Capstone Project

- Project Architecture
- RAG Implementation
- Agent & Tool Integration
- MCP Integration
- Evaluation & Guardrails
- Deployment & Final Demo

A Guided Path to Certification

Self-paced study, daily live sessions, personal mentoring, and hands-on practice — finish at your own pace.



STEP 1 · FOUNDATION

Self-paced modules

16+ hrs expert-led video, 8+ hrs complimentary instructor-led training, e-books & toolkits · lifetime access



STEP 2 · DAILY LIVE

GSDC Studio

Daily live sessions with global experts · 100+ monthly · free recordings



STEP 3 · PRACTICE

Learn by Doing + 1-on-1 SME

Build RAG pipelines, tool-using agents, and MCP integrations, with personal SME code and architecture reviews



STEP 4 · CERTIFICATION

Apply & Get Certified

Unlimited practice exams + capstone project, final proctored exam · portfolio-ready AI application

Move at your own pace. Study self-paced with lifetime access to all materials, live sessions, and recordings.

ALL IN ONE ENROLLMENT

Everything Included



Expert-Led Videos

16+ hours, self-paced



SME Connect

3 personalized 1-on-1 sessions



Capstone Project

Deploy a full RAG + agent + MCP application



GSDC Studio

100+ live monthly sessions



Learn By Doing

Hands-on RAG, agent & MCP builds



Job Support

LinkedIn Enhancer, Resume Builder + free membership

Exam & What to Expect

This is a certification, not a course. Study self-paced with the materials provided (plus live support), then sit a proctored online exam. Lifetime access to materials, plus unlimited practice exam access.

40
EXAM QUESTIONS

MCQ
EXAM FORMAT

65%
PASSING SCORE

90 min
DURATION

English
LANGUAGE

No
OPEN BOOK

5 Years
VALIDITY

Yes
FREE RETAKE

IS THIS FOR YOU?

Where CAIEP Takes You

YOUR ROLE	HOW CAIEP HELPS YOU	CAREER OUTCOME
Software Developer	Add LLM APIs, tool calling, and RAG to the products you already build.	→ AI Engineer
Data Scientist / ML Engineer	Move from notebooks to evaluated, deployed LLM and RAG systems.	→ LLM Engineer
Data Engineer	Build ingestion, chunking, embedding, and vector retrieval pipelines.	→ RAG Engineer
DevOps / Cloud Engineer	Run tracing, cost monitoring, model serving, and CI/CD for AI.	→ LLMOps Engineer
Solution Architect	Design agentic RAG and MCP architectures that pass security review.	→ AI Solutions Architect
Tech Lead / Eng. Manager	Set evaluation, guardrail, and production standards for AI teams.	→ AI Engineering Lead



7-Day Money-Back Guarantee

Enroll with zero risk — full 100% refund within 7 days if you feel you haven't gained the skills you're looking for. Includes a complimentary exam retake and lifetime access to your materials.

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Single Access

1

CERTIFICATION

- ✓ Self-paced expert-led videos + GSDC Studio
- ✓ 3 SME Connect (1-on-1) sessions
- ✓ Book of Knowledge + Capstone + Job Support
- ✓ Exam + 1 free retake & practice · free GSDC membership

Bundle Access

MOST POPULAR

3

CERTIFICATIONS

- ✓ Everything in Single, across 3 certifications
- ✓ Unlimited SME Connect (1-on-1)
- ✓ Exam + 2 free retakes & practice
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