LEARNING SAINT

Generative AI Program

12 Months Professional Certification

Build, Deploy & Scale Real-World Generative AI Systems

A comprehensive, industry-aligned certification designed to equip learners with deep expertise in Large Language Models, Generative AI architectures, and production-grade deployment.

12 Months | Professional Certificate | Hands-on Projects

Powered by
Learning Saint

Program Overview

Why Learning Saint

Industry-aligned curriculum, expert mentors, and career-focused outcomes

Program Structure

12-month progressive journey from fundamentals to deployment

Curriculum Journey

7 comprehensive phases covering AI foundations to advanced deployment

Specializations & Career Paths

Multiple tracks targeting high-impact AI roles

Tools & Technologies

Master industry-standard AI frameworks and platforms

Student Success

Real outcomes from learners who transformed their careers

Why Learning Saint

Trusted globally for career-focused AI education

Industry-Aligned Curriculum

Designed with real hiring needs in mind, ensuring graduates possess skills that employers actually demand in the current AI job market.

Expert Mentors

Hands-on experience in AI, ML, and enterprise systems. Learn from practitioners who have built and deployed real-world AI solutions.

Project-Based Learning

Work with real-world datasets and use cases that mirror industry challenges, building portfolio-ready projects.

Practical Implementation

Strong focus on hands-on coding, deployment, and real-world application rather than just theoretical concepts.

Career Support

Comprehensive guidance, portfolio building, and interview preparation to accelerate career transitions.

Continuous Updates

Curriculum evolves with the fast-changing AI ecosystem, ensuring learners always work with cutting-edge technologies.

Learning Saint doesn't just teach tools —it builds capable AI professionals ready to tackle enterprise-scale challenges.

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About the Program

12-month progressive learning journey

Progressive Learning Structure

The Generative AI Program is structured as a 12-month progressive learning journey, moving from AI fundamentals to advanced generative systems and production-grade deployment.

Each phase builds upon previous knowledge, ensuring learners develop comprehensive understanding and practical skills in lockstep.

By program completion, learners can:

- Design and fine-tune LLMs for real-world use cases
- Build **multimodal** and **retrieval-augmented AI systems**
- Deploy, monitor, and **scale models** using modern **MLOps practices**
- **Architect AI solutions aligned** with **business** and product goals

The program ensures learners **graduate job-ready, adaptable,** and **industry-relevant** in a rapidly evolving AI landscape.

Conceptual Foundations	Hands-on Labs	Industry Projects	Capstone Dev	Specializations
Theory & math	Coding practice	Real use cases	Portfolio piece	Career focus

Learning Experience

Live Mentor-Led Sessions

Interactive classes with industry experts providing real-time guidance and personalized feedback.

Recorded Resources

Comprehensive video library for self-paced learning and content review on demand.

Modern AI Frameworks

Hands-on experience with TensorFlow, PyTorch, Hugging Face, and cloud AI platforms.

Real Business Problems

Work on case studies and projects that mirror actual industry challenges and use cases.

Immediate workplace applicability —every concept and project translates directly to on-the-job value.

Key Program Highlights

What makes this program exceptional

12 Months Structured Learning

Comprehensive 12-month program with in-depth coverage of generative AI. Structured curriculum ensures systematic progression from basics to advanced topics.

Multiple Specializations

Choose from specialized tracks: Enterprise AI, AI Agents, Data Science & Analytics, Product & UX, and Multimodal Systems.

Live Mentor-Led Sessions

Interactive live sessions with industry experts plus recorded resources for flexible learning. Get personalized guidance and feedback.

Industry-Grade Capstone

Build an end-to-end Generative AI solution from problem identification to deployment. Solve real business challenges.

End-to-End AI Lifecycle

Complete coverage from data preprocessing and model training to deployment, monitoring, and scaling in production environments.

Portfolio-Ready Projects

Create multiple projects with GitHub guidance. Build a professional portfolio showcasing your AI expertise to employers.

Advanced AI Systems

Deep dive into LLMs, RAG systems, AI agents, and multimodal AI. Learn cutting-edge techniques for enterprise applications.

Career Mentoring

Comprehensive career support including role transition guidance, interview preparation, and salary negotiation strategies.

Phase 12: Foundations

Building core AI & Deep Learning expertise

01 Phase 1

AI & Machine Learning Foundations

AI/ML Introduction

Core concepts, types of learning, and AI applications.

Math for AI

Linear algebra, probability, and statistics essentials.

Python for AI

NumPy, Pandas, Matplotlib for data processing.

Data Handling

Feature engineering, cleaning, and visualization.

Supervised & Unsupervised Learning

Regression, classification, clustering algorithms (Linear Regression, Logistic Regression, Decision Trees, Random Forest, K-Means).

Outcome: Solid foundation in traditional ML and practical Python skills.

02 Phase 2

Deep Learning Essentials

Neural Networks

Perceptrons, MLPs, activation functions, backpropagation.

CNNs

Convolution, pooling, architectures for computer vision.

RNNs, LSTMs, GRUs

Sequential data processing for time series and NLP.

Training & Optimization

Loss functions, optimizers, regularization, hyperparameter tuning.

Deep Learning Frameworks

TensorFlow & PyTorch for model building, training, and deployment.

Outcome: Ability to build, train, and optimize deep learning models.

Phase 3-4: NLP & Generative AI

Mastering language models and generative systems

03 Phase 3

Natural Language Processing

Text Preprocessing

Tokenization, stemming, lemmatization, stop word removal.

Word Representations

Word2Vec, GloVe, FastText for semantic understanding.

Attention & Transformers

Self-attention, encoder-decoder, BERT, GPT architecture.

Text Classification

Sentiment analysis, topic classification with transformers.

Advanced NLP Tasks

Summarization, question answering, NER, language translation.

Outcome: Deep understanding of NLP and transformer-based architectures.

04 Phase 4

Generative AI & LLMs

Generative AI Foundations

Core concepts: autoregressive models, VAEs, GANs.

Transformer Architectures

Deep dive into attention, positional encoding, decoder-only designs.

Large Language Models

GPT, LLaMA, Claude: scaling laws, emergent abilities.

Prompt Engineering

Zero-shot, few-shot, chain-of-thought, automatic prompt optimization.

Fine-Tuning & PEFT

Full fine-tuning, LoRA, QLoRA, PEFT for efficient adaptation.

Outcome: Ability to work with and customize LLMs for various tasks.

Phase 56: Advanced Systems & MLOps

Production-ready AI deployment

05 Phase 5

Advanced Generative Systems

RAG Systems

Build RAG with dense/sparse retrieval, reranking, and hybrid approaches.

Vector Databases

FAISS, Pinecone, Chroma, Weaviate for semantic search at scale.

Multimodal AI

Text-image models (CLIP, Stable Diffusion), audio, video processing.

Diffusion Models

DDPM, Stable Diffusion, ControlNet for state-of-the-art image generation.

AI Agents

Autonomous agents, tool use, planning, and multi-agent workflows.

Outcome: Build sophisticated, production-ready AI systems.

06 Phase 6

MLOps & Deployment

Model Serving & APIs

FastAPI, Flask, model versioning, A/B testing strategies.

Cloud Deployment

AWS, GCP, Azure AI services, containerization with Docker.

Monitoring & Scaling

Model drift detection, performance metrics, autoscaling, cost optimization.

Responsible AI

Bias detection, fairness, explainability, AI governance frameworks.

Security & Compliance

Data privacy, model security, regulatory compliance (GDPR, HIPAA).

Outcome: Deploy and manage enterprise-scale AI systems.

Phase 7: Capstone & Specializations

Career-focused tracks and portfolio development

07

Capstone Project

End-to-end AI solution

Business Problem ID

Identify real business challenges and define AI solution requirements.

Model Development

Architecture design, training, optimization, and evaluation.

Deployment

API development, containerization, cloud deployment, monitoring.

Documentation

Technical documentation, presentations, business case studies.

Result: Portfolio-ready project demonstrating end-to-end AI expertise.

Specialization Tracks

Choose based on career goals and interests

Enterprise AI

Build scalable AI for business processes and automation.

AI Agents

Autonomous systems, multi-agent workflows, tool use.

Data Science

AI-powered analytics, automated insights, data augmentation.

Product & UX

AI in product design, user research, personalization.

Vertical AI

Domain-specific AI for healthcare, finance, marketing.

Multimodal AI

Text-image-audio-video models, fusion architectures.

Tailor your learning to target specific career paths and industries.

Career Paths & Tools Mastery

High-impact AI roles and industry-standard tools

Target Career Roles

Generative AI Engineer
Build and deploy GenAI systems and LLM applications.

AI/ML Engineer
Production ML systems, MLOps pipelines at scale.

LLM Engineer
Specialize in LLM training, fine-tuning, and optimization.

Applied AI Scientist
Research and develop novel AI solutions.

AI Solutions Architect
Design enterprise AI systems and infrastructure.

Data Scientist (GenAI)
Leverage GenAI for advanced analytics and insights.

Prompt Engineer / AI Workflow Designer
Design and optimize human-AI interaction patterns.

Salary Range: $95K - $300K+ depending on role, experience, and location.

Tools & Technologies

AI APIs & Platforms
OpenAI APIs | Hugging Face | Anthropic

AI Frameworks & Orchestration
LangChain | LlamaIndex | FastAPI

Vector Databases
FAISS | Pinecone | Chroma

MLOps & Deployment
MLflow | Docker | KubeFlow

Programming Languages
Python | SQL | JavaScript

Master industry-standard tools through hands-on projects and labs.

Student Success Stories

Real outcomes from program graduates

Mark — Software Engineer

★★★★★

"This program gave me real confidence to work with LLMs and AI agents. The projects felt industry-ready."

Daniel — Data Analyst

★★★★★

"The curriculum is very well structured. I moved from basics to advanced GenAI smoothly."

Bryce — AI Enthusiast

★★★★★

"Learning Saint focuses on practical implementation, not just theory. That made a huge difference."

Laura — Career Switcher

★★★★★

"Mentor support and real case studies helped me transition into an AI-focused role."

Program Satisfaction
98% Rating

Career Transition Rate
85% Success

Salary Increase
Avg. 40%+

Join hundreds of graduates who have transformed their careers with AI expertise.

Ready to Build the Future with AI?

Enroll in Learning Saint's 12-Month Generative AI Program

Take the next step toward a high-impact AI career. Transform from learner to AI professional with hands-on expertise in building and deploying real-world AI systems.

12 Months	Certificate	Portfolio	Mentorship
Comprehensive	Professional	Industry-Ready	Expert Guidance

Learning Saint
Building AI Professionals

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Ready to start your AI journey?

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