

# CERTIFICATE IN GENERATIVE ARTIFICIAL INTELLIGENCE (GENAI) FOR COMPUTER SCIENTISTS

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Generative AI (GenAI) encompasses a suite of advanced machine learning models and techniques capable of creating novel content across diverse modalities, including text, images, audio, and code. Its transformative potential is poised to reshape industries, research, jobs, and daily life, establishing a long-lasting impact on all facets of society. This certificate program provides students with a comprehensive understanding of the theoretical foundation of GenAI and its underlying technologies, its limitations, equipping them with both practical and marketable skills as well as critical insights. It prepares students to excel in the rapidly evolving AI-driven workforce, where GenAI skills like the use of prompt engineering in software engineering are increasingly vital. Upon completion of this program, students will be equipped to contribute meaningfully to the development and use of GenAI technologies, fostering innovation and positively impacting society at large.

## Admissions Requirements

The certificate is open to current undergraduate students with a grade of C or better in CSC 413 (or equivalent) and a grade point average of at least 3.0. Additional prerequisites may need to be met depending on the elective a student wishes to take.

## Program Learning Outcomes

1. Explain the core principles and the underlying technologies/ algorithms, encompassing diverse data modalities, prompt engineering, and fine-tuning techniques.
2. Apply core AI concepts, ranging from traditional algorithms to modern deep learning and NLP.
3. Apply generative AI platforms and technologies to practical, hands-on projects, demonstrating the ability to analyze and implement GenAI solutions.
4. Critically analyze and address ethical considerations related to generative AI, including issues of privacy, security, and transparency.

## Certificate in Generative Artificial Intelligence (GenAI) for Computer Scientists – 12 units

### Core Courses (6 units)

Code	Title	Units
CSC 603	Generative AI: Fundamentals and Applications	3
CSC 659	AI Explainability and Ethics	3

### Electives (6 units)

Select Two:

Code	Title	Units
CSC 620	Natural Language Technologies	3
CSC 665	Artificial Intelligence	3
CSC 671	Deep Learning	3
CSC 676	Soft Computing and Decision Support Systems	3