

TECHNOLOGY TRANSFER PRESENTS

# FRANK GRECO

## INTRODUCTION TO GENERATIVE AI FOR JAVA DEVELOPERS

**ONLINE LIVE STREAMING**

**MAY 13-14, 2024**

DUE TO TIME ZONES, THIS CLASS WILL TAKE PLACE IN 2 AFTERNOONS  
FROM 2 PM TO 6 PM ITALIAN TIME



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## ABOUT THIS SEMINAR

This seminar is designed to empower Java engineers with the basic knowledge and skills needed to harness the capabilities of generative AI tools for various aspects of the production software process. We'll explore the impact of Machine Learning on the Java ecosystem, to hands-on coding using tools like ChatGPT and other APIs. With a focus on practical applications, participants will gain proficiency in leveraging GenAI, an understanding of embeddings, and how to responsibly integrate GenAI into Java applications.

### PREREQUISITES

To ensure participants get the most out of the "**Introduction to Generative AI for Java Developers**" seminar, it is recommended that attendees have the following:

- Basic Java Programming Skills (3-5+ years of experience), working knowledge of an IDE, debugging skills, etc.
- Familiarity with basic software development and architecture concepts
- Experience with API Integration
- Participants are encouraged to bring their laptops to actively participate in coding exercises and follow along with demonstrations
- Curiosity and Eagerness to Learn!
- OpenAI account and API key ([openai.com/blog/openai-api](https://openai.com/blog/openai-api))

### WHAT YOU WILL LEARN

- Foundations of Generative AI in Java, exploring the basics and relevance in development
- Pattern recognition and its implications in real-world datasets
- Exposure to key Generative AI tools such as ChatGPT, DALL-E, Bard/PaLM, Cohere, Anthropic, Midjourney, etc.
- Understanding the impact of Generative AI on Java applications
- Techniques for effective communication with Generative AI, emphasizing the importance of well-crafted prompts
- An overview of OpenAI APIs in Java with demonstrations
- Foundation Models vs Fine-Tuning vs Instruction Tuning
- How to Craft a private Chatbot architecture in Java
- Concerns and the risks associated with Generative AI
- Insights into future trends in Generative AI for Java developers, concluding with a recap of key learnings and additional resources for further exploration

# OUTLINE

## ***Foundations of Generative AI in Java***

### **1. Overview of Generative AI and ML**

- Key concepts: Artificial Intelligence, Machine Learning, and Deep Learning
- Neural networks and Large Language Models (LLMs)
- What is Generative AI and its relevance in modern software development
- How ML is reshaping the Java development landscape

### **2. Recognizing Patterns**

- Understanding the concept of patterns in data
- Implications for Generative AI
- Real-world examples of pattern recognition in large datasets

### **3. Generative AI Tools for Java Developers**

- Introduction to key generative AI tools: ChatGPT, DALL-E, Bard/PaLM, Cohere, Anthropic, Midjourney, etc.
- Coding tools
- Impact on the Software Development Process
- Impact on Java applications, data structures, and systems architecture
- Coding exercise

### **4. Generative AI Tools for Java Developers**

- How to Communicate Effectively with Generative AI
- Prompts and Completions
- Importance of well-crafted prompts in Generative AI
- Techniques for designing prompts that yield desired outcomes
- ChatGPT vs Playground
- Practical examples and exercises in Prompt Engineering

## ***Practical Implementation and Applications***

### **5. OpenAI APIs**

- Understanding the OpenAI APIs
- Native and REST interfaces
- Available APIs for Java developers
- Exploring Prompt Engineering with OpenAI
- Exercise - create a simple Chatbot in Java

### **6. Implementing ChatGPT in Java Applications**

- Integration of ChatGPT into Java applications
- Understanding prompt structure and effective communication techniques
- Instruction tuning for optimal results

### **7. Getting LLMs to Recognize Your Data**

- Foundation Models vs Fine-Tuning vs Instruction Tuning
- Role of neural networks in Generative AI
- What are Embeddings
- Why are Embeddings useful
- Exercise: Java program to create an embedding
- Embedding Similarity

### **8. Business Capabilities**

- Building a private Chatbot using Java-centric tools
- OpenAI ChatGPT and Playground
- Overview of Retrieval Augmented Generation (RAG) Techniques
- Navigating vector databases and embeddings
- Live demo: Building and deploying a simple private Chatbot

## 9. Q&A and Closing Remarks

- Addressing participant questions and concerns
- What are the risks of GenAI
- Future Trends
- Recap of key learnings and takeaways
- Closing remarks and resources for further exploration

## **SPEAKER**

Frank Greco is a recognized authority on Artificial Intelligence, Machine Learning, Cloud/Mobile Computing, and understanding the business value of information technology. He is an educator, technology manager, frequent writer, author, and visible achievements in Machine Learning, Cloud Computing, mobile strategy, system integration startups, strategic technology/business partnerships, enterprise infrastructure, and emerging technologies, particularly for financial systems and large enterprises. Strategic thinker with strong leadership skills, business development acumen, and a resourceful team leader with an innovative entrepreneurial spirit.

An experienced executive with a broad background that spans Google, AT&T Bell Laboratories, NY Stock Exchange, Lehman Brothers, Sun Microsystems, and a collection of technology startups. He has led teams in software development, system integration, pre-sales engagements, product management, disaster recovery, and research & development.

Frank is an accomplished speaker with frequent presentations at major technology trade shows such as JavaOne/CodeOne, QCon, Devnexus, Trading Technology, HTML5DevConf, Jfokus, Devvxx, and International Enterprise Services Conferences, etc. Expertise in innovation and mentorship.

He was honored with the title of “Java Champion” by an international team of high-ranking Java executives. He is the current Chairman of the NYJavaSIG, the largest Java User Group in North America, and has deep experience building developer communities. He is also the co-author of JSR381 Visual Recognition for Java, a standard Machine Learning API for Java application developers.

# INFORMATION

<p><b>PARTICIPATION FEE</b></p> <p>€ 750</p> <p>The fee includes all seminar documentation.</p> <p><b>SEMINAR TIMETABLE</b></p> <p>2.00 pm - 6.00 pm (Italian Time)</p>	<p><b>HOW TO REGISTER</b></p> <p>You must send the registration form with the receipt of the payment to: info@technologytransfer.it</p> <p>TECHNOLOGY TRANSFER S.r.l. Piazza Cavour, 3 - 00193 Rome (Italy) Fax +39-06-6871102</p> <p><b>PAYMENT</b></p> <p>Wire transfer to: Technology Transfer S.r.l. Banca: Cariparma Agenzia 1 di Roma IBAN Code: IT 03 W 06230 03202 000057031348 BIC/SWIFT: CRPPIT2P546</p>	<p><b>GENERAL CONDITIONS</b></p> <p><b>DISCOUNT</b></p> <p>The participants who will register 30 days before the seminar are entitled to a 5% discount.</p> <p>If a company registers 5 participants to the same seminar, it will pay only for 4.</p> <p>Those who benefit of this discount are not entitled to other discounts for the same seminar.</p> <p><b>CANCELLATION POLICY</b></p> <p>A full refund is given for any cancellation received more than 15 days before the seminar starts. Cancellations less than 15 days prior the event are liable for 50% of the fee. Cancellations less than one week prior to the event date will be liable for the full fee.</p> <p><b>CANCELLATION LIABILITY</b></p> <p>In the case of cancellation of an event for any reason, Technology Transfer's liability is limited to the return of the registration fee only.</p>
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**FRANK GRECO**  
**INTRODUCTION TO GENERATIVE AI**  
**FOR JAVA DEVELOPERS**

May 13-14, 2024

Registration fee:  
€ 750

If registered participants are unable to attend, or in case of cancellation of the seminar, the general conditions mentioned before are applicable.

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Stamp and signature

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