

LA TECHNOLOGY TRANSFER PRESENTS

IVAN REZNIKOV

GENERATIVE AI

practical applications of RAG

(Retrieval-Augmented Generation) with LangChain

ONLINE LIVE STREAMING

NOVEMBER 19-20, 2024

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



info@technologytransfer.it
www.technologytransfer.it

ABOUT THIS SEMINAR

This comprehensive seminar explores the practical applications of Retrieval-Augmented Generation (RAG) using LangChain and LangSmith. RAG is a powerful technique that combines the generative capabilities of Large Language Models (LLMs) with the precision of information retrieval, enabling sophisticated question-answering and data interaction applications.

This course emphasizes hands-on learning, equipping participants with the skills to build robust RAG systems for various practical scenarios. You will learn how to use OpenAI without showing them your data!

What you will learn

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Who Should Attend

This seminar is ideal for:

- **Developers and Software Engineers:** Those looking to build and customize applications using language models
- **Data Scientists and Machine Learning Engineers:** Professionals interested in integrating LLMs with data sources and refining Prompts for more accurate responses
- **Product Managers and Technical Leads:** Individuals overseeing teams and projects incorporating AI and language model technologies
- **AI and Technology Enthusiasts:** Anyone interested in the latest developments in AI, language models, and their practical applications

OUTLINE

1. Introduction to LangChain

- Overview of LangChain as an Open-Source Framework
- Understanding the Integration of LangChain with Large Language Models (LLMs)

2. Key Features of LangChain

- Management of LLMs and Prompts
- Chains: Understanding Sequences of Calls to LLMs and Other Utilities
- Data Augmented Generation: Integrating External Data Sources with LangChain
- Agents: Creating Agents that Allow LLMs to Make and Act upon Decisions
- Memory: Implementing Memory to Maintain the State Between Calls
- Evaluation: Approaches to Assess Models Using LLMs Themselves

3. Introduction to RAG and Building RAG Pipelines

- Understanding the Basics of Retrieval-Augmented Generation
- Ingesting and Indexing Data Using LangChain's Built-in Document Loaders and Vector Stores
- Developing Pipelines that Load, Split, and Store Data
- Implementing Advanced Retrieval Techniques

4. Evaluating and Minimizing Hallucinations

- Utilizing LangSmith to Evaluate and Refine RAG Systems
- Evaluation Metrics and Techniques
- Setting Up LangSmith Environment Variables for Tracing
- Analyzing and Debugging RAG Pipelines

5. Advanced RAG Techniques

- Integrating RAG with real-world examples
- Health checks (toxicity, misinformation, etc) of RAG Systems
- Practical Applications and Challenges of Deploying RAG Systems
- RAG over Graph DBs

INFORMATION

PARTICIPATION FEE

€ 900

The fee includes all seminar documentation.

SEMINAR TIMETABLE

2.00 pm - 6.00 pm (Italian time)

HOW TO REGISTER

You must send the registration form with the receipt of the payment to:
info@technologytransfer.it

TECHNOLOGY TRANSFER S.r.l.
Piazza Cavour, 3 - 00193 Rome (Italy)

PAYMENT

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

GENERAL CONDITIONS

DISCOUNT

The participants who will register 30 days before the seminar are entitled to a 5% discount.

If a company registers 5 participants to the same seminar, it will pay only for 4.

Those who benefit of this discount are not entitled to other discounts for the same seminar.

CANCELLATION POLICY

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.

CANCELLATION LIABILITY

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.

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November 19-20, 2024

Registration fee:
€ 900

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

first name

surname

job title

organisation

address

postcode

city

country

telephone

fax

e-mail



Stamp and Signature

Send your registration form with the receipt of the payment to:
Technology Transfer S.r.l.
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SPEAKER

Ivan Reznikov is principal Data Scientist at QBurst, brings over a decade (12 years) of proficiency in Python and Data Science. He is currently dedicating his expertise to authoring LangChain for Life Sciences, a book set to be published by O'Reilly. His accolades include being recognized as a Kaggle Competition Expert and teaching university in Master Data Science courses. Ivan has spoken on TEDx, GITEX and PyCON MEA.