

# FASTAPI: BEGINNER TO INTERMEDIATE LECTURE

Jennica B

# INTRODUCTION TO FASTAPI

- Modern, high-performance web framework for building APIs
- Optimized for speed with ASGI (asynchronous server)
- Built on top of Starlette (web handling) and Pydantic (validation)



# WHEN TO USE FASTAPI VS. DJANGO OR FLASK

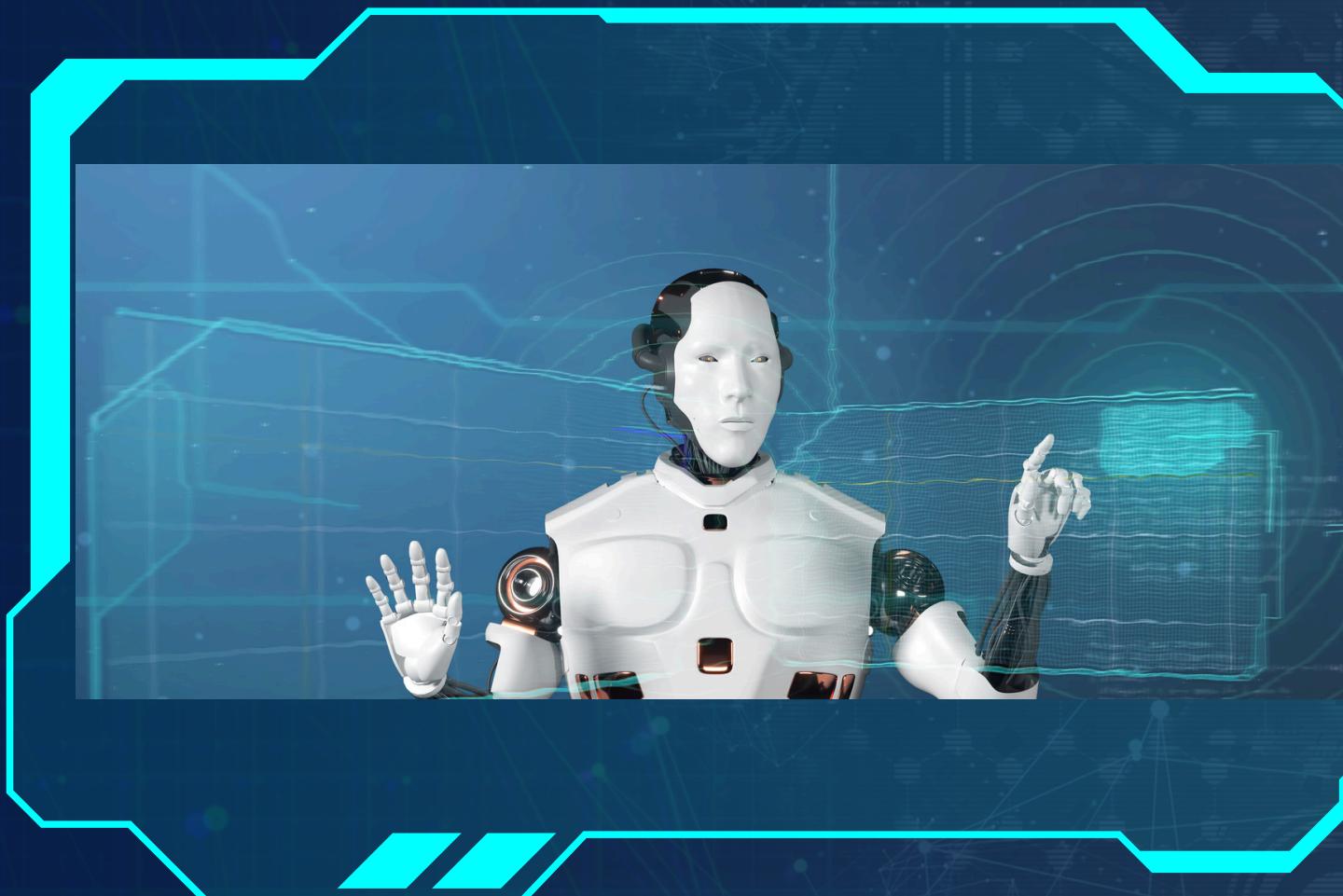
Django   Full-featured, ORM, great when avoiding coding from scratch  
Flask

Lightweight, flexible, minimalistic  
FastAPI  
High-performance APIs, async support, many concurrent users





# 5G NETWORKS



The deployment of 5G networks is revolutionizing how we connect and communicate. With significantly faster data speeds, lower latency, and the capacity to support a massive number of connected devices, 5G is enabling new applications like smart cities, autonomous vehicles, and advanced IoT (Internet of Things) solutions. This technology is laying the foundation for a more connected and efficient world.





# AUTONOMOUS VEHICLES

Autonomous vehicles, or self-driving cars, are set to transform the transportation industry. By leveraging advanced sensors, AI, and real-time data, these vehicles can navigate roads with minimal human intervention. The adoption of autonomous vehicles promises to enhance road safety, reduce traffic congestion, and provide greater mobility options, particularly for those who are unable to drive.





# SMART CITIES

1.

## Energy Efficiency

Optimizing energy use through smart grids and sustainable infrastructure.

2.

## Public Transportation

Enhancing transit systems with real-time data and autonomous vehicles.

3.

## Waste Management

Implementing smart waste collection and recycling systems for cleaner cities.





# RENEWABLE ENERGY

1.

## Solar Power

Utilizing photovoltaic panels to convert sunlight into electricity, providing a clean and renewable energy source that reduces carbon emissions.

2.

## Wind Turbines

Capturing wind energy through large turbines to generate electricity, contributing to a sustainable energy mix and decreasing reliance on fossil fuels.





# VIRTUAL REALITY



Virtual Reality (VR) is extending its reach beyond gaming into areas like education, healthcare, and entertainment. By creating immersive, interactive experiences, VR has the potential to revolutionize how we learn, train, and even treat medical conditions. As the technology continues to improve, VR is expected to become an integral part of various industries, offering new ways to engage and experience the world.





# SPACE EXPLORATION

Space exploration is entering a new era, driven by advances in technology and a renewed interest in reaching beyond our planet. From ambitious missions to Mars to the development of space tourism, these efforts are expanding our understanding of the universe and pushing the boundaries of what humanity can achieve. The future of space exploration holds the promise of new discoveries and the potential for human settlement on other planets.





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# THANK YOU!

As we look to the future, these technologies will play a crucial role in shaping a better world for generations to come.



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