# Cracking The Code

## Your Roadmap To A Career In Artificial Intellegence

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# What Is Artificial Intelligence?

<u>Definition</u>:
Artificial Intelligence (AI) refers to the development of machines and systems that can perform tasks that usually require human intelligence, such as learning, reasoning, problem-solving, and decision-making.

## Examples

# Career Opportunities in A.I

As AI continues to evolve, it's creating a broad range of career opportunities across industries. Whether you're interested in developing algorithms, analyzing large datasets, or optimizing user experiences, AI offers high-demand roles with competitive salaries.

Rapid Growth: The demand for AI talent is growing at an unprecedented rate, with a projected 50-60% increase in AI-related job openings over the next decade.

Diverse Fields: AI professionals work in various sectors, including healthcare, finance, tech, education, and entertainment.
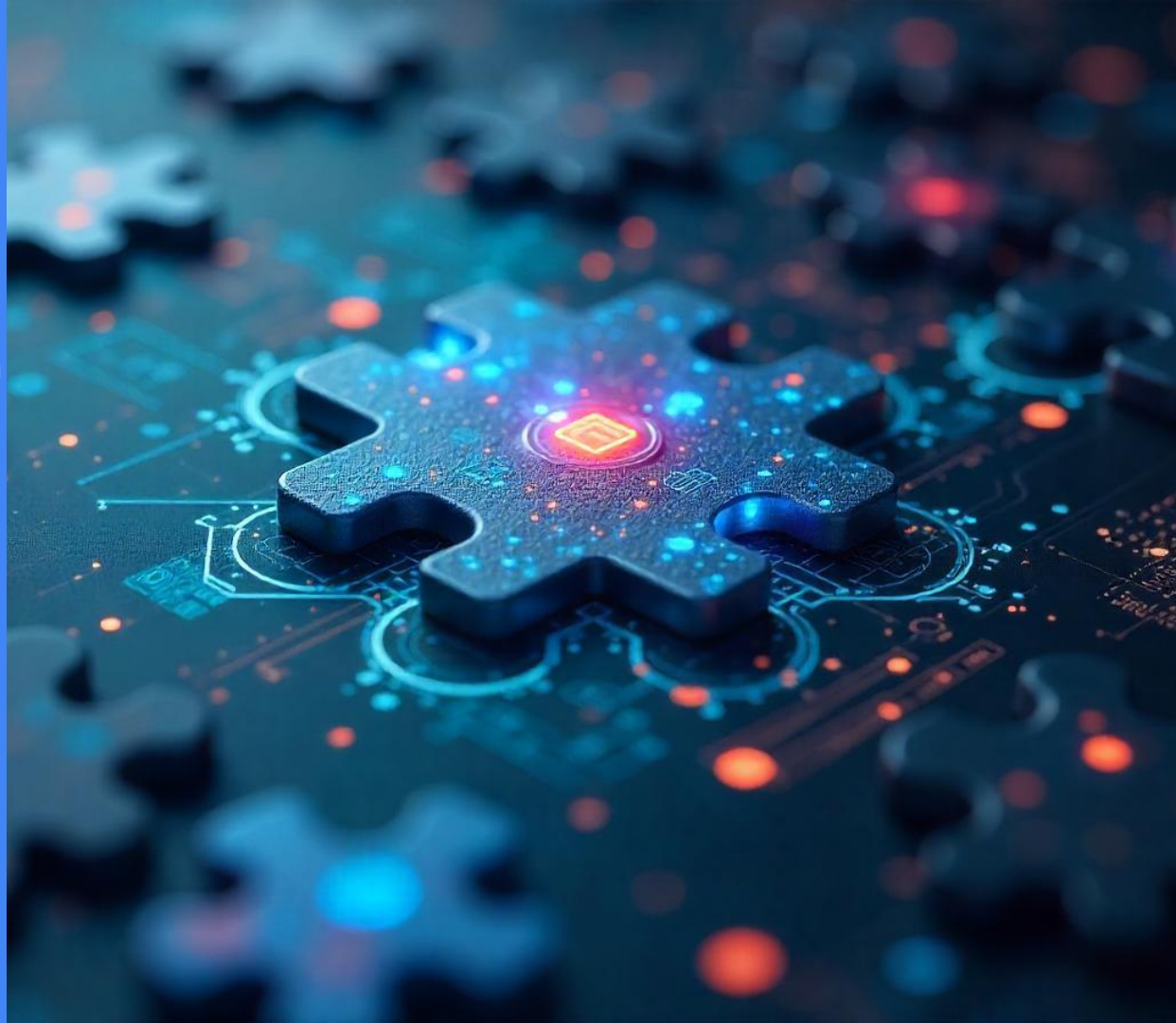
Skills Needed: Success in AI careers typically requires strong programming skills, knowledge of machine learning algorithms, and data analysis expertise.

Big Data Engineer

NLP Processing Specialist

AI Data Analyst

AI Research Scientist

Business Intelligence Developer

Machine Learning Engineer

AI Software Engineer

User Experience Specialist

AI Consultant

AI Wrangler

# AI Necessities

What are the skills needed to break through the world of AI in today's world?

- Mathematics
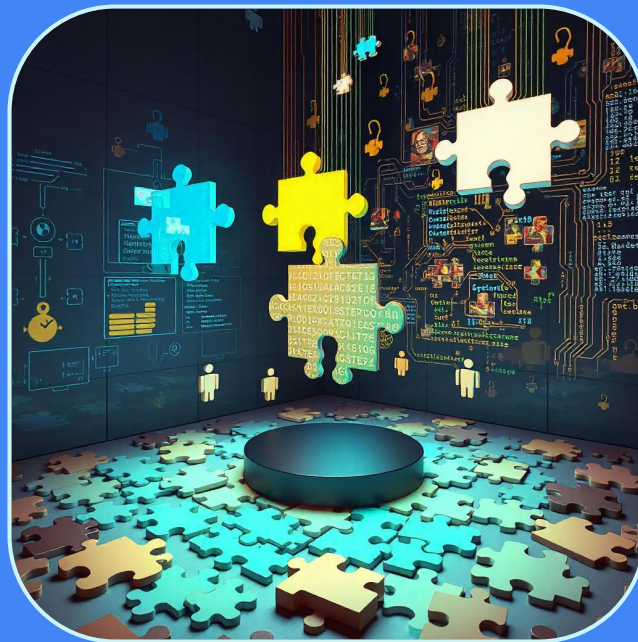
- Programming

- Libraries

- API(s)

# Mathematics & Programming
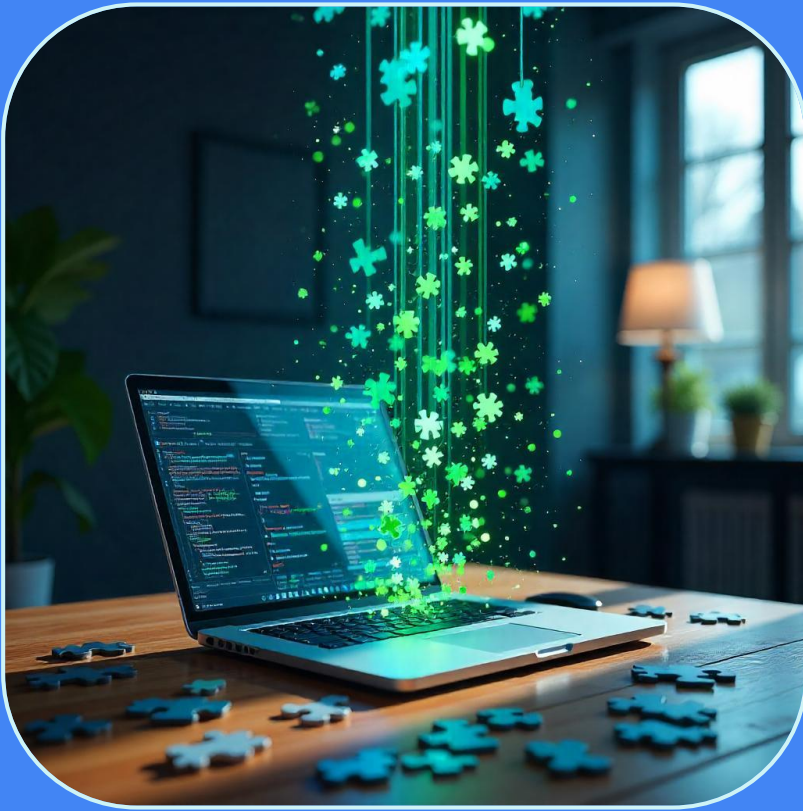
**Mathematical Literacy**

- Linear Algebra (Most important)
    - Jacobian matrices
    - Tensor Products, Contractions...etc.
- Statistics
- Elementary Calculus
    - Partial Derivatives
    - Directional Derivatives

**Well Rounded Knowledge in Programming**

- C++ (Optimization, Building ML framworks)
- Python
    - TensorFlow
    - Pytorch

# Implementing AI/ML

API Integration

- OpenAI
- Gemini API
- Anthropic
- Cohere

Basic Programming Knowledge

- API Integration
- Web Services
    - Server-side Apps
      ( Js/Tsx/Py/Go/Java )
    - Servers ( AWS, Cloud...etc. )
    - Deployment ( AWS, Vercel...etc. )
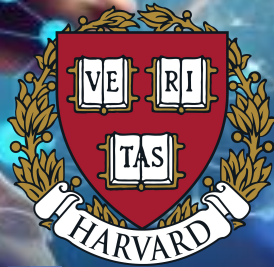
**Resources for learning AI      ( Video Contents )**

## Each Feature

**▪ _Coursera_**
Research Universities and Institutions publish a lot of video contents and practice questions for free (i.e. Stanford University, Google, Microsoft, IBM)

**▪ _Udemy_**
Once you have paid for the contents (approx. 10-20$ each), you can access them forever. When you finish the course, you will get the certification.

# Useful contents URLs

[NYU DeepLearning Lecture](#)

[MIT DeepLearning Lecture (Videos and slides)](#)

[COURSERA](#)

[edX](#)

[Udemy](#)

# Conclusion: Your Path to a Career In AI

**AI is rapidly growing with an increasing demand for skilled professionals across industries.**

- **Key skills required:**

  - **Strong foundations in Mathematics (Linear Algebra, Calculus, Statistics)**

  - **Proficiency in Programming (Python, C++, Machine Learning frameworks)**

  - **Experience with API Integration (OpenAI, Gemini, etc.)**

- **Diverse career opportunities available in fields like healthcare, finance, education, and entertainment.**

- **Resources for learning: Platforms like Coursera, edX, and Udemy offer valuable courses to kickstart your AI journey.**

  ***Stay curious, keep learning, and embrace the future of AI!***