Career in AI&ML

Artificial Intelligence and Machine Learning

18 July 2025 | Araf Mustavi

Agenda

- Rapid Prototyping using AI in Action
- Career Options Available in AI&ML
- How to crack roles in AI&ML
- Tools and Technologies

A Survey
Before we start the session

Work Experience

Analyst, IDT Operations
Global Graduate, IDT
BAT Bangladesh

Business Intelligence Consultant
Centro Tex Limited

Ex Machine Learning Engineer
ACI Limited

Ex Blockchain Engineer
EMALI (Hongkong)

Ex Data Science Intern
Nestle Bangladesh Limited

Ex Blockchain Engineer Trainee
Technohaven

Ex Founder and CEO
Whiteknights

/arafmustavi

Technohaven Company Limited

Nestlé

EMALI

ACI

Centro Tex

BAT BANGLADESH

What is AI?

Artificial Intelligence (AI) is a field of computer science focused on building systems that can perform tasks that typically require human intelligence.

These tasks include:

1. Understanding language (like chatbots or translators)
2. Recognizing images or sounds (like facial recognition or voice assistants)
3. Learning from data (like recommendation systems)
4. Making decisions (like self-driving cars or stock trading bots)
5. Solving problems (like game-playing AI or scheduling systems)

A Question

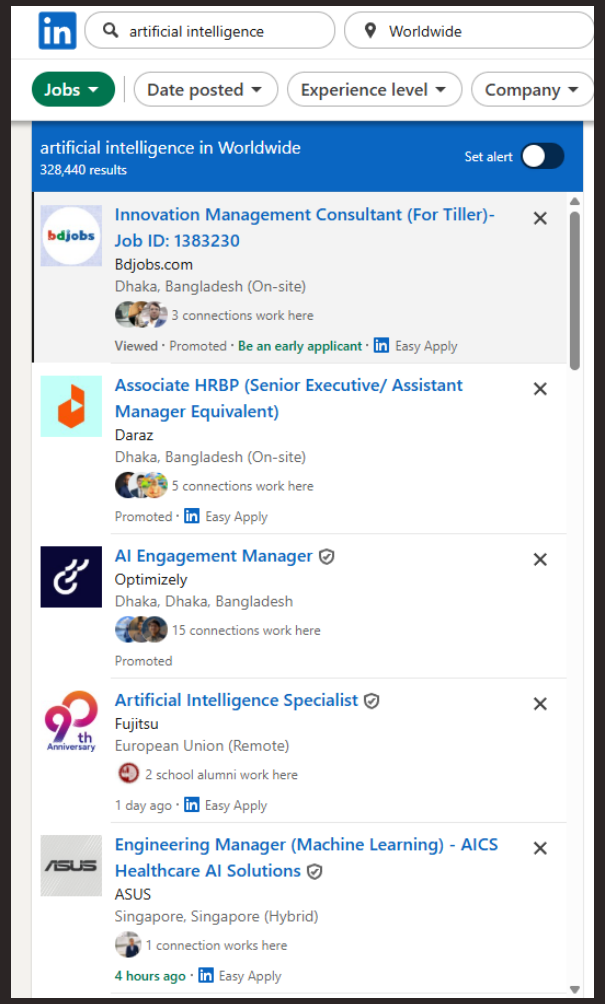
Will AI Take Away our Job?

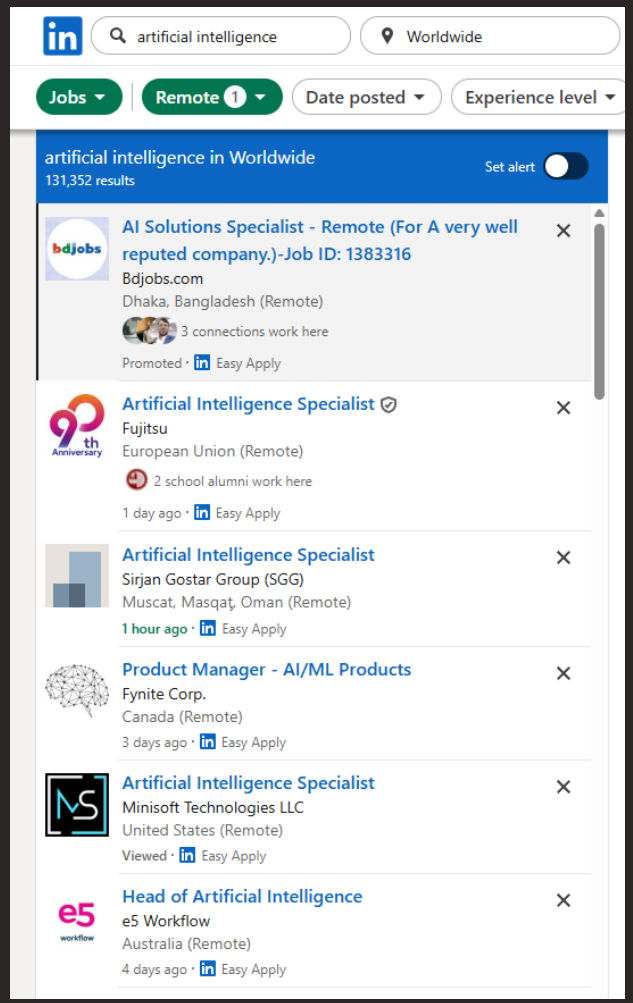
NO!

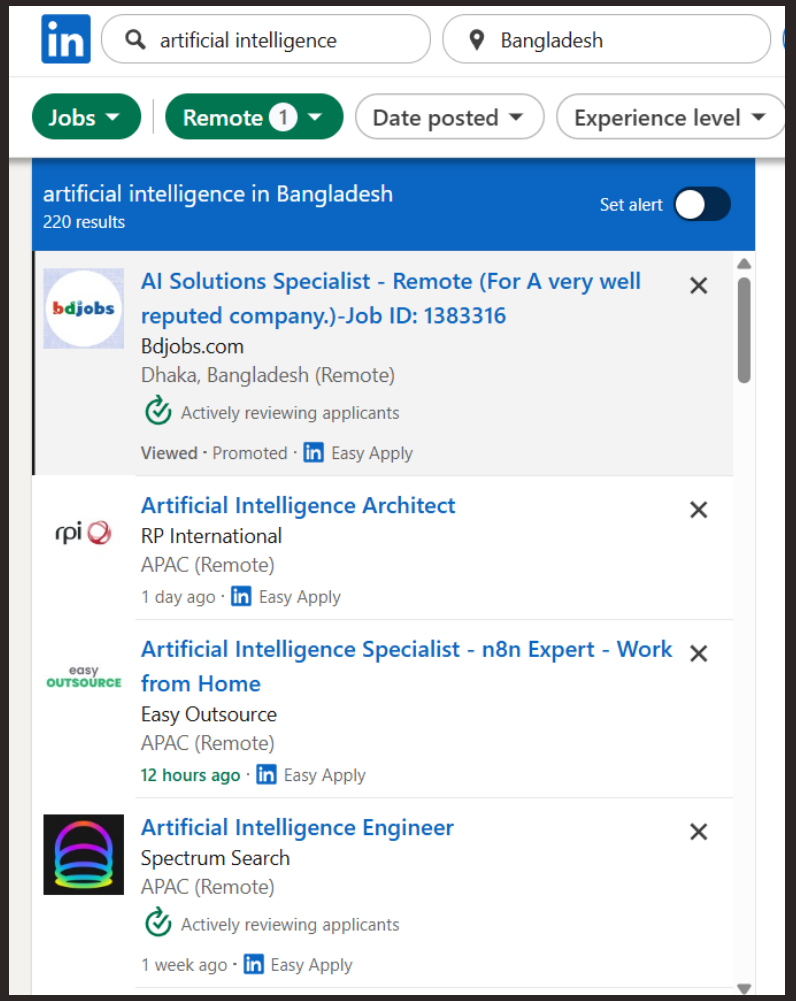
A Person using AI will ☺

What Jobs are Out There in Artificial Intelligence?

- Search Results from 18 July 2025 7:30PM







Demo of AI in Action

LIVE DEMO

Career Options in AI&ML

Entry-Level Roles

1. AI Intern
2. AI/ML Analyst
3. Data Analyst

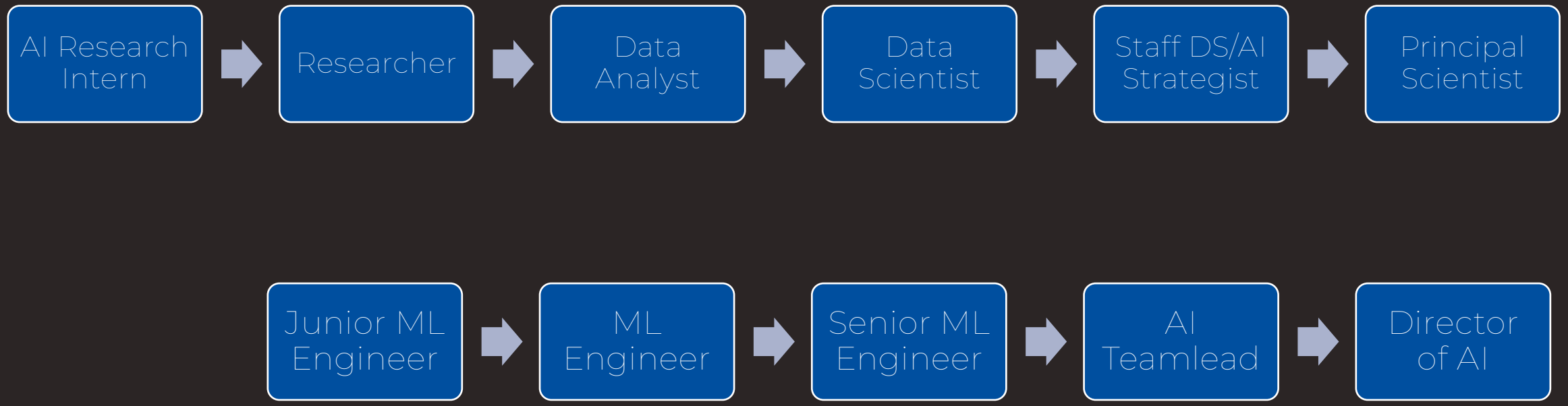
Technical Roles

1. Machine Learning Engineer
2. Data Scientist
3. AI Research Scientist
4. AI Product Manager
5. AI Software Developer
6. AI/ML Ops Engineer
7. Data Engineer

Domain Specific Roles

1. PhD Researcher in AI
2. Research Engineer
3. AI Consultant
4. AI Specialist / Analyst
5. AI Educator or Technical Trainer

Career Progression Paths



Popular Tools & Technologies

- Languages: Python, R, SQL, C++
- Frameworks: TensorFlow, PyTorch, Keras, Scikit-learn, Hugging Face
- Tools: Docker, Git, MLflow, Airflow, FastAPI, LangChain
- Cloud: AWS SageMaker, Google AI Platform, Azure ML

Roadmap for Career in AI&ML

Roadmap

- Learn Python + Math Basics
- Understand ML Concepts
- Hands-on with Projects
- Explore Deep Learning, NLP, CV
- Learn Deployment & MLOps
- Build a Strong Portfolio
- Get Internship or Freelance Work
- Practice Explaining & Interviewing
- Apply Strategically
- Stay Updated & Keep Networking

Build a Strong Foundation in Prerequisites

Core Subjects You Must Know:

Mathematics (don’t skip this):

- Linear Algebra (vectors, matrices)
- Calculus (gradients, optimization)
- Probability & Statistics (distributions, Bayes' theorem)

Programming:

- Learn **Python** (de facto language of AI)
- Know how to use libraries like NumPy, Pandas, Matplotlib

Data Structures & Algorithms:

- Basics for problem-solving, especially if you're aiming for big tech

Learn AI/ML Concepts

Start with the Basics of Machine Learning:

- Supervised vs. Unsupervised Learning
- Regression, Classification, Clustering
- Model evaluation (accuracy, precision, recall, F1-score)

Recommended Courses:

- Andrew Ng’s ML Course (Coursera)
- Google AI’s free ML Crash Course
- fast.ai (great for hands-on deep learning)

Dive into Deep Learning & Specialized Areas

Learn Topics Like:

- Neural Networks (ANN, CNN, RNN)
- Transformers & Large Language Models
- Natural Language Processing (NLP)
- Computer Vision (CV)
- Reinforcement Learning

Tools & Libraries:

- TensorFlow, PyTorch
- Hugging Face Transformers
- OpenCV (for vision)
- spaCy, NLTK (for NLP)

Get Hands-On with Projects

Build, Don’t Just Watch.

Projects are your portfolio.

Suggested Projects:

- Image classification (e.g., cat vs. dog)
- Sentiment analysis of tweets
- Recommender system (like Netflix/Amazon)
- Chatbot using NLP
- Predict house prices (regression)

Host on:

- GitHub (version control + code)
- Hugging Face Spaces / Streamlit / Gradio (interactive apps)

Understand Deployment & MLOps

Most real AI jobs require model deployment, not just training.

Learn:

- Model serving using FastAPI or Flask
- Model versioning & pipelines (MLflow, Airflow)
- CI/CD pipelines for ML
- Docker, Git, Cloud (AWS/GCP/Azure)

Create a Portfolio & Resume That Showcases AI Skills

- Publish your projects on GitHub
- Write blogs explaining your work (Medium, Hashnode)
- Create a LinkedIn post series showcasing what you’re learning
- Build a portfolio website if possible

Internships, Freelance, or Open Source Contributions

- Kaggle competitions
- Freelance gigs on Upwork/Fiverr
- Google Summer of Code (for open source)
- Contributing to open-source AI repos (e.g., huggingface, pytorch)

Learn to Communicate Your AI Work

- You don’t just need to build—you must **explain**.
- Make slide decks for your projects
- Record small demo videos
- Practice mock interviews and whiteboard coding
- Learn to explain AI to non-technical stakeholders

Apply for Roles Based on Your Level

Level	Roles to Target	Keywords
Beginner	AI Intern, Data Analyst, ML Trainee	"entry-level", "graduate"
Intermediate	ML Engineer, Data Scientist	"2+ years experience", "Python, ML"
Advanced	Research Engineer, Senior DS	"LLM", "NLP expert", "AWS ML pipeline"

Stay Updated & Network

- Follow AI thought leaders (e.g., Andrew Ng, Lex Fridman)
  - *Tip : Search for AI in Linkedin*
- Read research papers on arXiv
- Attend meetups, webinars, or hackathons
- Join communities (Kaggle, Reddit r/MachineLearning, Discord groups)

THANK YOU!
ANY QUESTIONS?

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