Navigating Your Career in AI: Skills, Opportunities, and Future Trends

Nilesh Shinde | Azure Developer Lead

ABOUT ME

Nilesh Shinde

Tech Consultant at Deloitte India, Ex-KPMG

Communities I manage:

1.Azure Developer Community
2.Elastic User Group Mumbai
3.Kong Meetup Mumbai
4.Data Visualization Society DVS-Mumbai
5.MongoDB User Group Mumbai
6.Apache Kafka Meetup Mumbai
7.DearAzure Community India
8.AWS User Group Mumbai
9.DevRelSquad Mumbai

01

ROLES

02

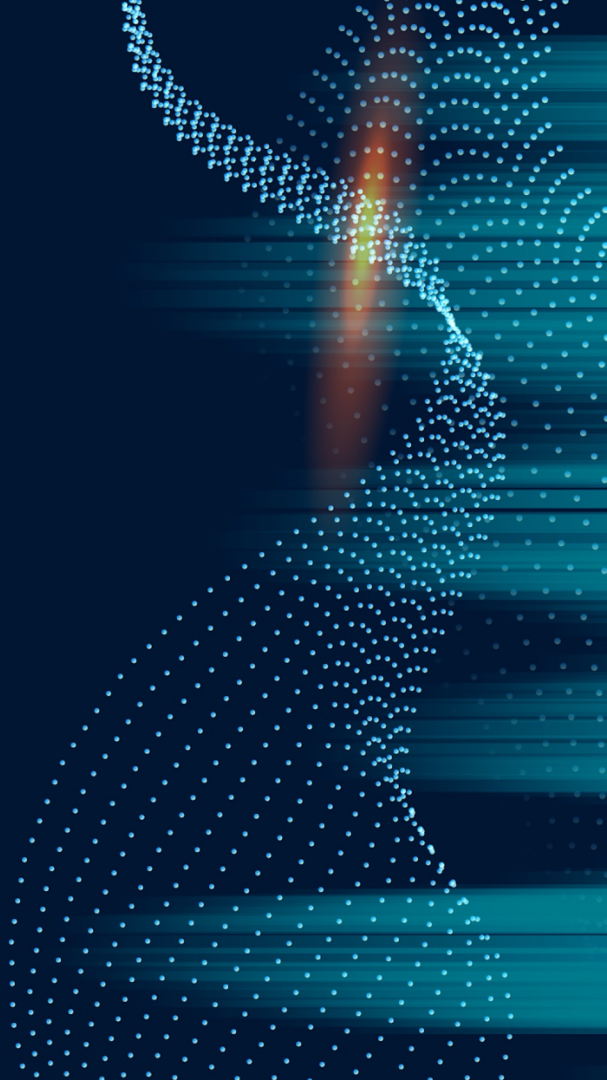
SKILLS

03

RESOURCES

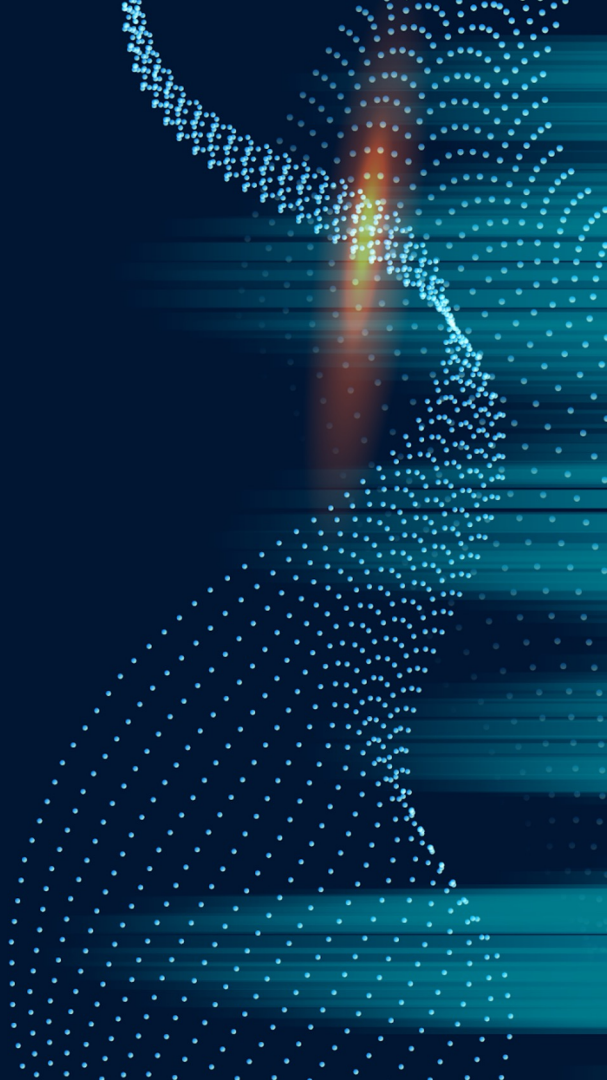
AI ROLES

- Machine Learning Engineer
- Data Scientist
- AI Research Scientist
- Data Analyst
- Business Intelligence Developer
- Computer Vision Engineer
- NLP Engineer
- AI Product Manager
- Robotics Engineer
- AI Ethicist



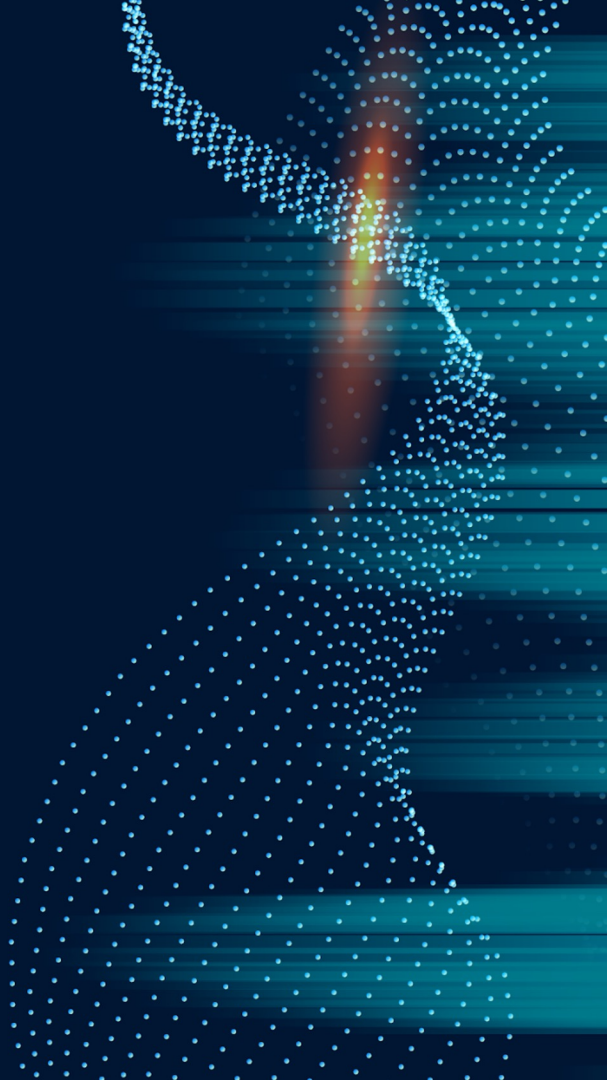
Machine Learning Engineer

- **Programming**: Proficiency in Python and R.
- **Machine Learning Algorithms**: Understanding of algorithms like regression, clustering, decision trees, etc.
- **Deep Learning**: Knowledge of neural networks and frameworks like TensorFlow, Keras, and PyTorch.
- **Data Preprocessing**: Skills in cleaning and preparing data for analysis.
- **Math and Statistics**: Strong foundation in linear algebra, calculus, and statistics.



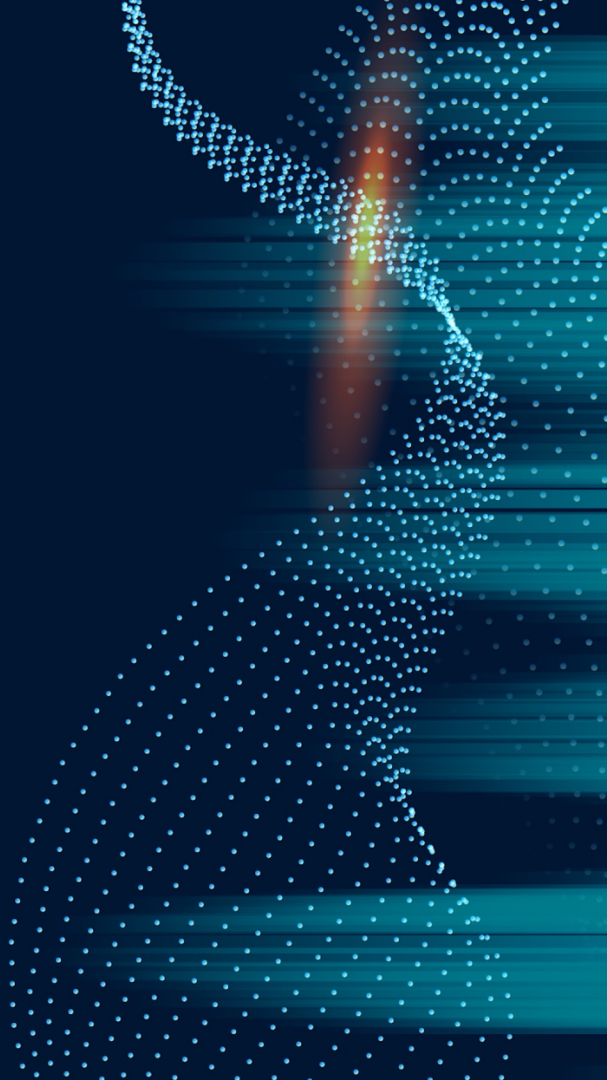
Data Scientist

- **Statistical Analysis**: Proficiency in statistics and probability.
- **Programming**: Strong skills in Python, R, and SQL.
- **Data Wrangling**: Ability to clean, manipulate, and preprocess data.
- **Machine Learning**: Knowledge of machine learning techniques and algorithms.
- **Data Visualization**: Skills in tools like Tableau, Power BI, or matplotlib.



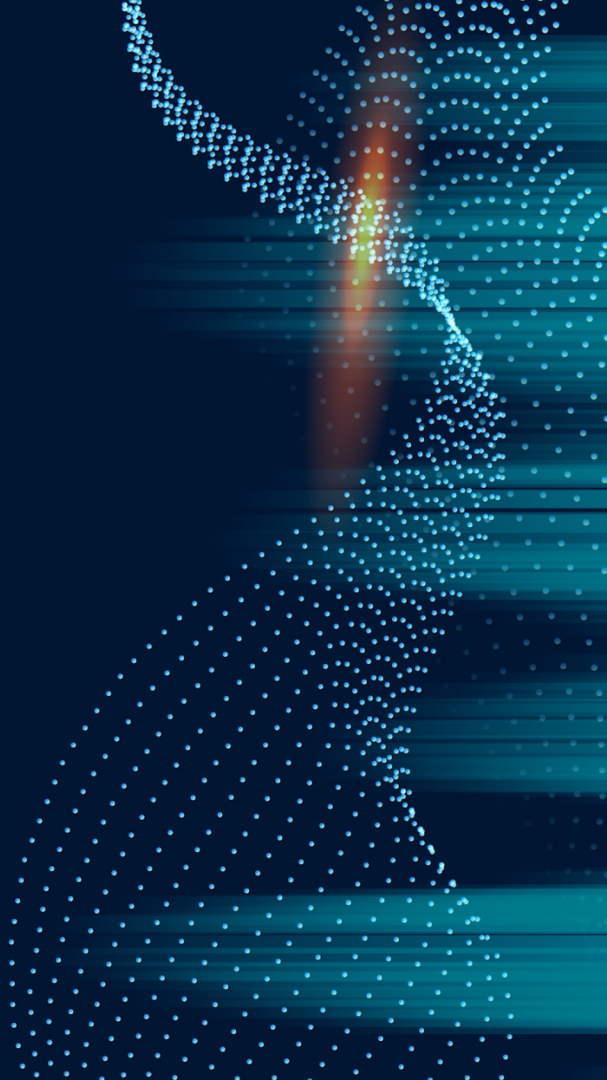
AI Research Scientist

- **Advanced Mathematics**: Deep understanding of mathematics, especially linear algebra, calculus, and probability.
- **Research Skills**: Ability to conduct original research and publish papers.
- **Programming**: Proficiency in languages like Python, C++, and Java.
- **Machine Learning and Deep Learning**: Extensive knowledge of ML and DL algorithms and frameworks.
- **Critical Thinking**: Strong analytical and problem-solving skills.



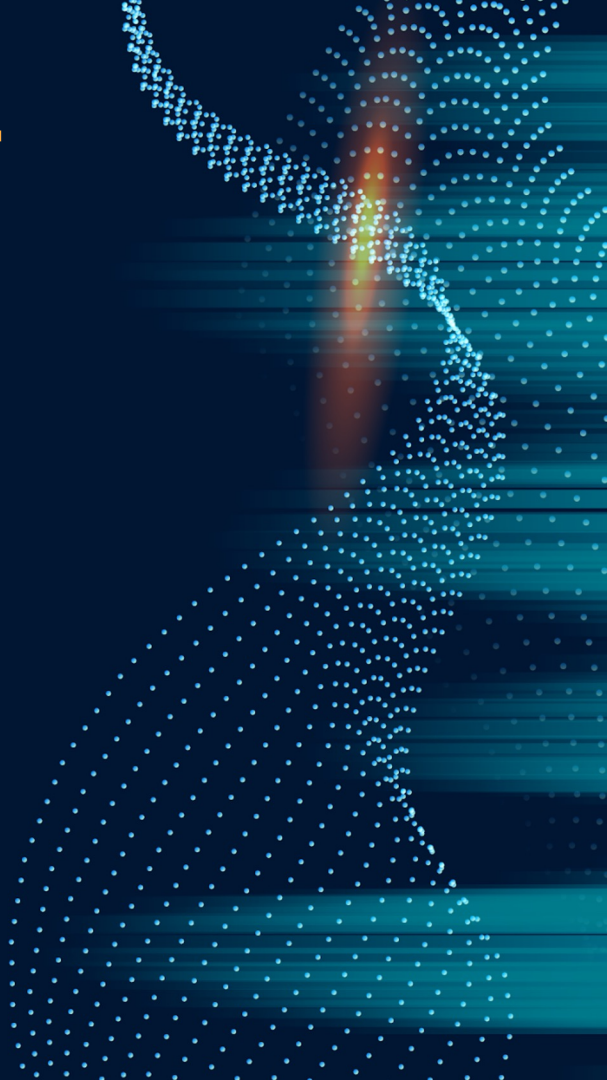
Data Analyst

- **Data Analysis**: Proficiency in analyzing data using statistical methods.
- **Programming**: Skills in SQL, Python, and R.
- **Excel**: Advanced skills in Excel for data manipulation and analysis.
- **Data Visualization**: Ability to create visualizations using tools like Tableau and Power BI.
- **Communication**: Strong ability to communicate findings to stakeholders.



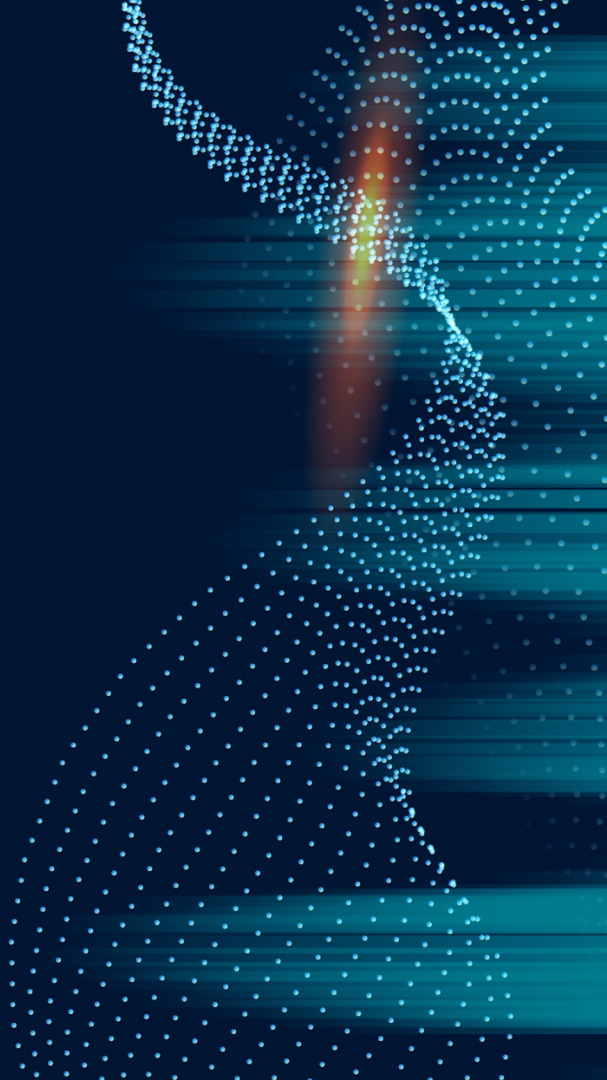
Business Intelligence Developer

- **BI Tools**: Proficiency in tools like Microsoft BI, Tableau, and QlikView.
- **Data Warehousing**: Knowledge of data warehousing concepts and tools.
- **SQL**: Strong SQL skills for querying and manipulating data.
- **Data Modeling**: Understanding of data modeling techniques.
- **Analytical Thinking**: Strong problem-solving and analytical skills.



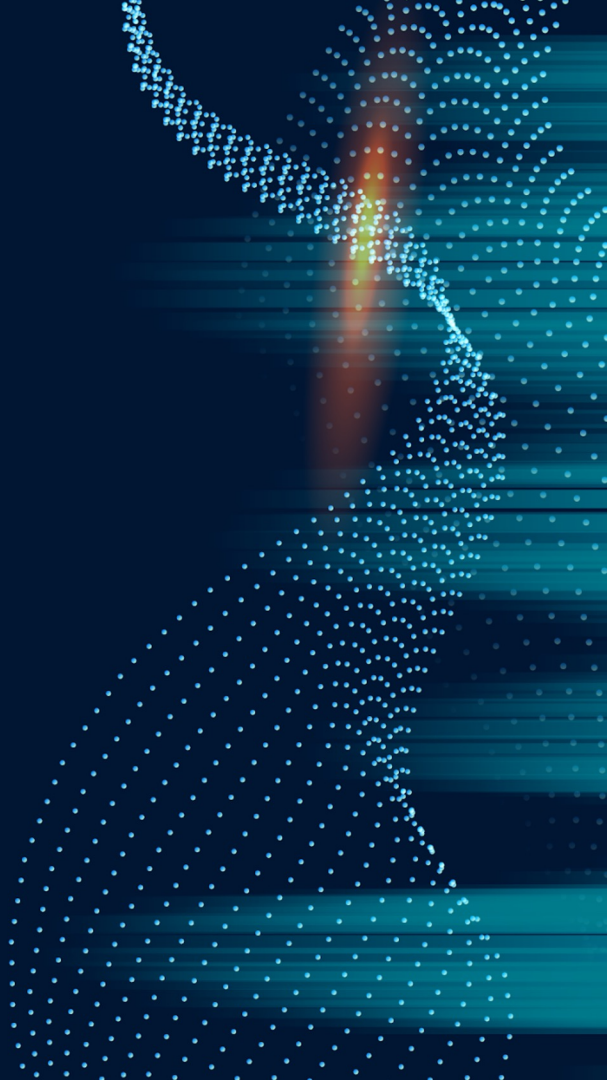
Computer Vision Engineer

- **Image Processing**: Knowledge of image processing techniques.
- **Programming**: Skills in Python, C++, and libraries like OpenCV.
- **Deep Learning**: Proficiency in convolutional neural networks (CNNs) and frameworks like TensorFlow and PyTorch.
- **Mathematics**: Strong foundation in linear algebra and calculus.
- **Algorithm Development**: Ability to develop and implement computer vision algorithms.



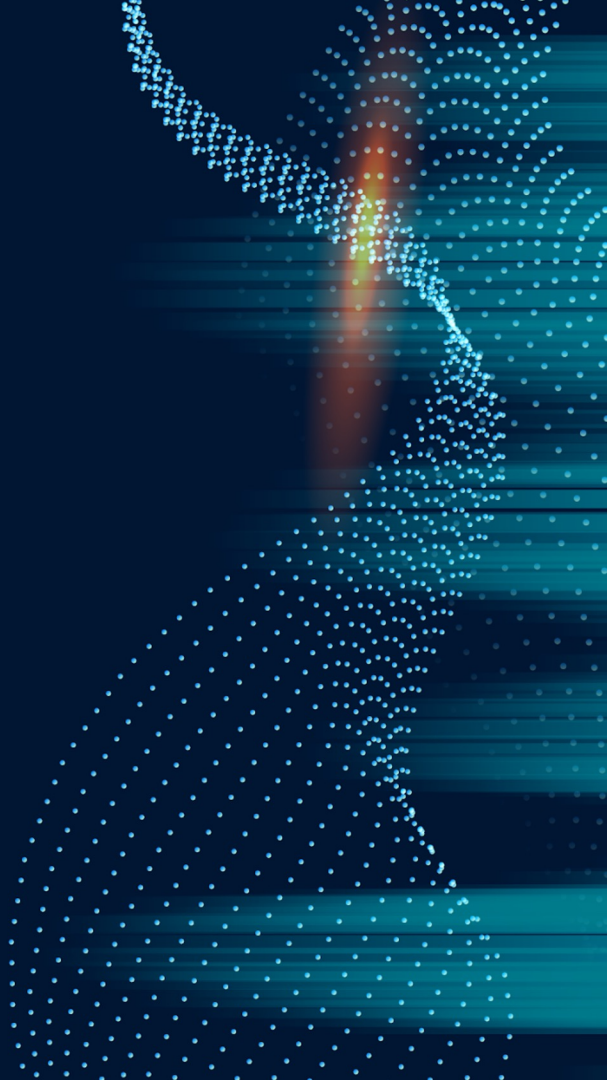
NLP Engineer

- **NLP Libraries**: Proficiency in libraries like NLTK, SpaCy, and Hugging Face Transformers.
- **Machine Learning**: Understanding of ML techniques specific to NLP, such as text classification and sentiment analysis.
- **Programming**: Strong skills in Python and R.
- **Linguistics**: Basic understanding of linguistics and language structure.
- **Deep Learning**: Knowledge of RNNs, LSTMs, and transformers for NLP tasks.



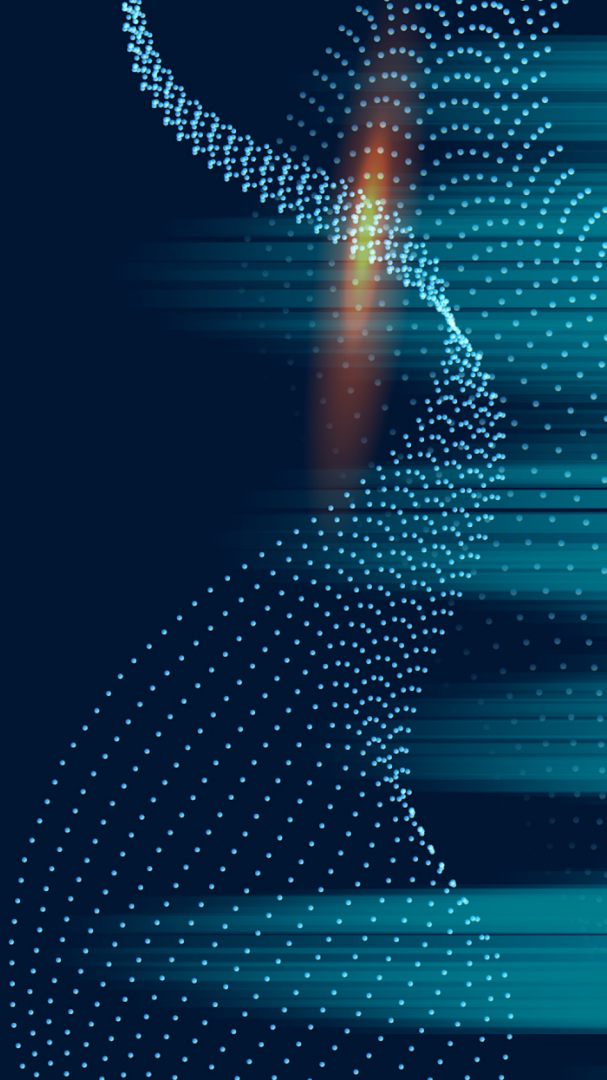
AI Product Manager

- **Project Management**: Skills in managing AI projects and teams.
- **Technical Knowledge**: Understanding of AI technologies and methodologies.
- **Business Acumen**: Ability to align AI projects with business goals.
- **Communication**: Strong communication and presentation skills.
- **Problem-Solving**: Ability to identify and solve business problems using AI solutions.



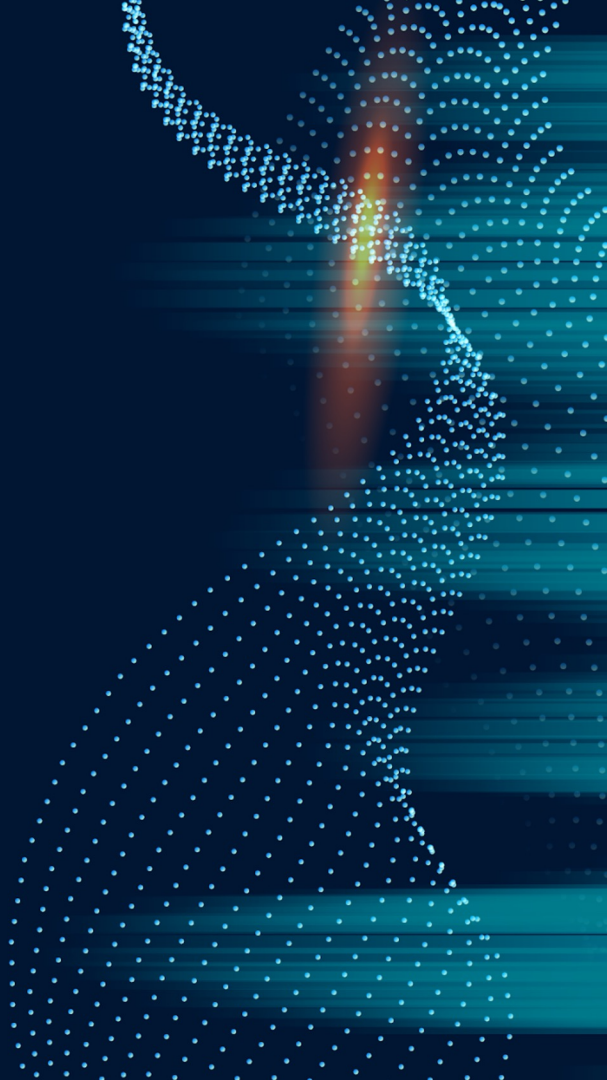
Robotics Engineer

- **Control Systems**: Knowledge of control theory and robotics.
- **Mechanical Engineering**: Understanding of mechanical design and engineering.
- **Programming**: Skills in C++, Python, and ROS (Robot Operating System).
- **Machine Learning**: Application of ML techniques in robotics.
- **Electrical Engineering**: Basic knowledge of circuits and hardware interfacing.



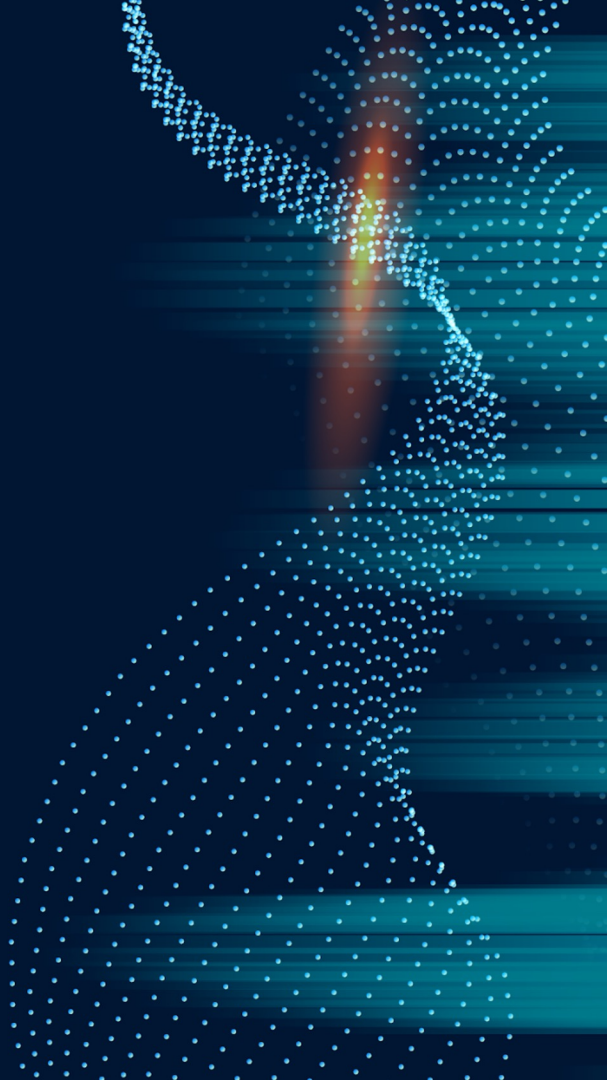
AI Ethicist

- **Ethics**: Strong understanding of ethical principles and their application in AI.
- **AI Knowledge**: Basic understanding of AI technologies and their societal impact.
- **Critical Thinking**: Strong analytical and critical thinking skills.
- **Communication**: Ability to articulate ethical concerns and solutions.
- **Interdisciplinary Knowledge**: Understanding of law, sociology, and philosophy related to AI.



General Skills Across All Roles

- **Problem-Solving**: Ability to tackle complex problems efficiently.
- **Continuous Learning**: Staying updated with the latest trends and advancements in AI.
- **Teamwork**: Ability to work effectively in a team environment.
- **Attention to Detail**: Precision and accuracy in work.
- **Communication**: Strong verbal and written communication skills for conveying technical information to non-technical stakeholders.



Sectors in India seeing the highest growth in AI-related jobs:

Technology Sector

—37% Increase

Business Process Outsourcing (BPO)

—313% Increase,

Sanitation and Construction

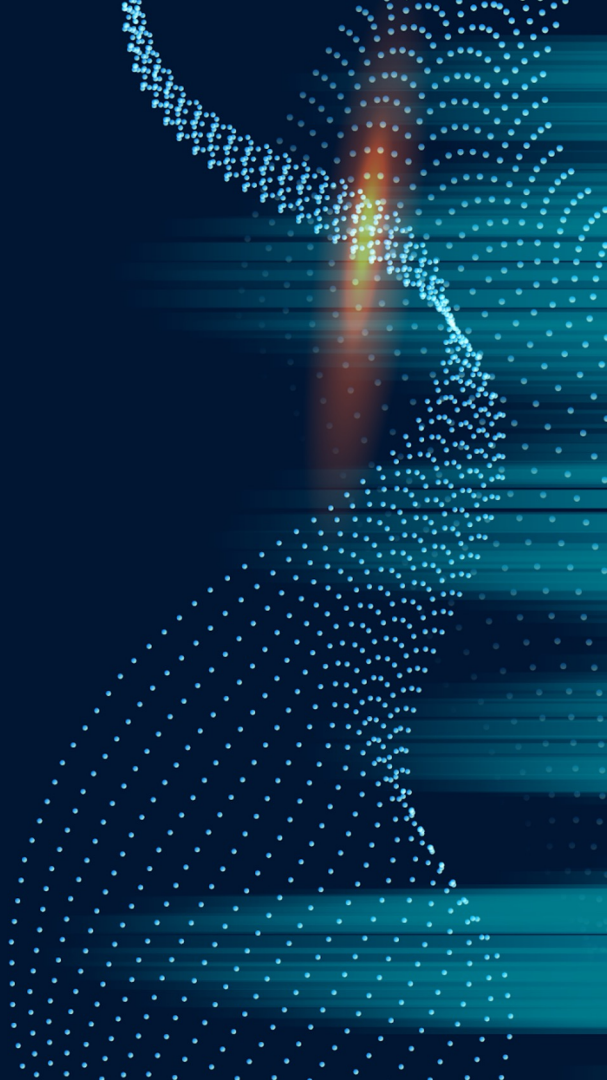
— 160% Increase

Therapy and Mental Health

—102% Increase

Steps to Get an AI Job:

1. Acquire Relevant Education
2. Develop Essential Skills
3. Gain Practical Experience
4. Build a Strong Portfolio
5. Gain Specialized Knowledge (Based on Role)
6. Network and Stay Updated
7. Contribute to the AI Community



Resources

- https://learn.microsoft.com/en-us/training/student-hub/
- https://learn.microsoft.com/en-us/ai/
- https://learn.microsoft.com/en-us/copilot/
- https://learn.microsoft.com/en-us/training/educator-center/

- https://github.com/nivu/ai_all_resources
- https://github.com/mrsaeeddev/free-ai-resources
- https://github.com/aishwaryanr/awesome-generative-ai-guide
- https://www.deeplearning.ai/short-courses/chatgpt-prompt-engineering-for-developers/

Thank You!