

Examples
 Delivery robots
 Warehouse robots
 Self-driving cars

Degree Pathways
 Mechanical Engineering
 Electrical Engineering
 Computer Engineering
 Computer Science or Robotics

Technical Skills
 Mechanical Design
 Circuit Design
 Robotics Algorithms
 Programming

Median Salary
 \$85,000 - \$120,000

ROBOTICS ENGINEER

01

Design and development of robotic systems

Examples:
 Movie, music, or product recommendation systems
 Training generative AI models (e.g., ChatGPT, Midjourney)

Degree Pathways
 Computer Science
 Machine Learning
 Mathematics
 Statistics

Technical Skills
 Machine Learning Algorithms
 Deep Neural Networks
 Model Evaluation
 Statistics
 Software Engineering

Median Salary:
 \$145,000 - \$160,000

MACHINE LEARNING ENGINEER

05

Designs and builds AI systems that use large datasets to make predictions

Examples
 Developing new machine learning algorithms to train large language models such as ChatGPT

Degree Pathways
 Computer Science
 Machine Learning
 Mathematics
 Statistics

Technical Skills
 Machine Learning
 Model Evaluation
 Algorithm Design
 Neural Networks
 Statistics
 Programming

Median Salary
 \$93,000 - \$130,000

AI RESEARCHER

07

Develops new algorithms and architectures for artificial intelligence

Examples
 Design an AI system that helps a company better understand and serve its customers

Degree Pathways
 Computer Science
 Information Systems & Technology
 Data Science
 Machine Learning

Technical Skills
 System Architecture
 Data Management
 Project Management
 Programming
 Machine Learning
 Cloud Computing

Median Salary
 \$107,000 - \$130,000

AI ARCHITECT

08

Plans and designs large AI-powered software systems

COMPUTER VISION ENGINEER

10

Develops algorithms and applications that allow computers to recognize information in images or video

Examples

Face recognition in smart phones
Visual search (e.g., Google Lens, Pinterest)
Scene understanding in self-driving cars

Degree Pathways

Computer Science
Computer Engineering
Robotics

Technical Skills

Computer Vision Image Processing
Machine Learning Artificial Intelligence
Programming Computer Graphics

Median Salary

\$165,000 - \$170,000

DATA ARCHITECT

09

Designs and implements an organization's strategies for data storage and access

Examples

Designing an internet retailer's product and customer databases
Implementation of storage and security policies for public records databases

Degree Pathways

Information Systems & Technology
Computer Science
Data Science

Technical Skills

Software Development System Architecture
Machine Learning Data Visualization
Databases Cybersecurity
Cloud Computing

Median Salary

\$143,000 - \$150,000

DATA ENGINEER

02

Creates and manages large datasets to support machine learning and data science projects

Examples

Collecting and organizing disease outbreak data from multiple health agencies

Degree Pathways

Information Systems & Technology
Computer Science

Technical Skills

Data Management
Data Science
Machine Learning
Programming

Median Salary

\$151,000 - \$160,000

DATA SCIENTIST

04

Collects and analyzes datasets to detect patterns that help organizations make better decisions

Examples

Discovering new types of customers based on purchase history
Modeling changes in animal populations due to climate change

Degree Pathways

Computer Science
Statistics
Data Science

Technical Skills

Data Management
Data Visualization
Data Analysis
Machine Learning

Median Salary

\$115,000 - \$130,000

Examples

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Visual search (e.g., Google Lens, Pinterest)
Scene understanding in self-driving cars

Degree Pathways

Computer Science
Computer Engineering
Robotics

Technical Skills

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Machine Learning Artificial Intelligence
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Data Science

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Technical Skills

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Data Analysis
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DATA SCIENTIST

04

Collects and analyzes datasets to detect patterns that help organizations make better decisions



BUSINESS ANALYST

03

Solves business problems using statistical and machine learning tools

Examples

Performing financial analyses to predict revenue and expenses
Forecasting seasonal demand for products

Degree Pathways

Business Administration
Finance
Data Science
Computer Science

Technical Skills

Statistical Analysis
Financial Forecasting
Data Visualization
Machine Learning

Median Salary

\$68,000 - \$120,000



PRODUCT MANAGER

06

Manages the planning, development, and launch of products and services that use AI

Examples

Works with a team to introduce new AI features into email, social media, or graphic design tools

Degree Pathways

Business Administration
Marketing
Computer Science

Technical Skills

Business Strategy
Design Thinking
Market Research
Data Analytics
Problem-solving
Team Management
Behavior Sciences

Median Salary

\$131,000 - \$150,000



USER EXPERIENCE (UX) DESIGNER

11

Works with users and software developers to create products that are easy to understand and use

Examples

Design the passenger experience in self-driving cars (e.g., in-car displays, audio notifications, and mobile app)
Design interfaces for mobile apps, websites, and digital products

Degree Pathways

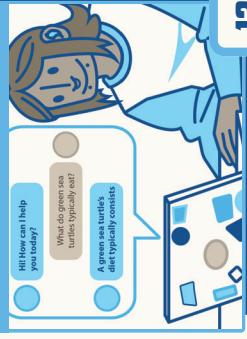
Computer Science
Web and Graphic Design
Human Factors Engineering
Psychology

Technical Skills

Interviewing
Field Research
Data Analysis
Behavioral Analysis
Interface Design
Prototyping
User Testing

Median Salary

\$143,000 - \$150,000



CONVERSATIONAL AI ENGINEER

13

Develops Natural Language Processing functionality for chatbots and intelligent assistants

Examples

Develop customer service chatbots for websites
Develop intelligent assistants such as Siri, Alexa, or Google Home

Degree Pathways

Computer Science
Artificial Intelligence
Cognitive Science
Linguistics

Technical Skills

Linguistic Analysis
Dialogue Management
Large Language Models
Software Engineering

Median Salary

\$63,000 - \$85,000

Examples

Performing financial analyses to predict revenue and expenses
Forecasting seasonal demand for products

Degree Pathways

Business Administration
Finance
Data Science
Computer Science

Technical Skills

Statistical Analysis
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Human Factors Engineering
Psychology

Technical Skills

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Field Research
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CONVERSATIONAL AI ENGINEER

13

Develops Natural Language Processing functionality for chatbots and intelligent assistants

12

Develops applications that can understand and generate human language

Examples
Develops algorithms that allow search engines to understand & answer questions
Develops text summarization and language translation apps

Degree Pathways
Computer Science
Machine Learning
Cognitive Science
Linguistics

Technical Skills
Linguistic Analysis
Machine Learning
Large Language Models
Software Engineering

Median Salary
\$108,000 - \$120,000

Core AI

CORE AI professionals create AI functionality for AI products, services, and tools we use in our personal and professional lives.

Data

DATA professionals collect, organize, store, and process large data sets that are used to train AI models and gain insights.

Product Design

AI PRODUCT DESIGN professionals design and launch innovative AI products through understanding the needs of users and goals of businesses.

Language

AI LANGUAGE professionals create algorithms and intelligent agents that enable computers to understand human language, talk, and collaborate with us.

AI CAREER CARDS

Explore Your Future In AI

ABOUT THIS DECK
Created by Katja Karoleski, Joanna Mijares, and Arwen Dowers

CHECK OUT THE FULL SET
<https://ai4ga.org/>

CONTENT DEVELOPED BY
Christina Gardner-McCune and David Touretzky

THANK YOU
This deck was funded by NSF DRL-2049029 and DRL-2048502

Examples

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Develops text summarization and language translation apps

Degree Pathways

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- Machine Learning
- Cognitive Science
- Linguistics

Technical Skills

- Linguistic Analysis
- Machine Learning
- Large Language Models
- Software Engineering

Median Salary

\$108,000 - \$120,000

NATURAL LANGUAGE PROCESSING (NLP) ENGINEER

12

Develops applications that can understand and generate human language

AI Career Cards

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