

Career Perspective in Artificial Intelligence

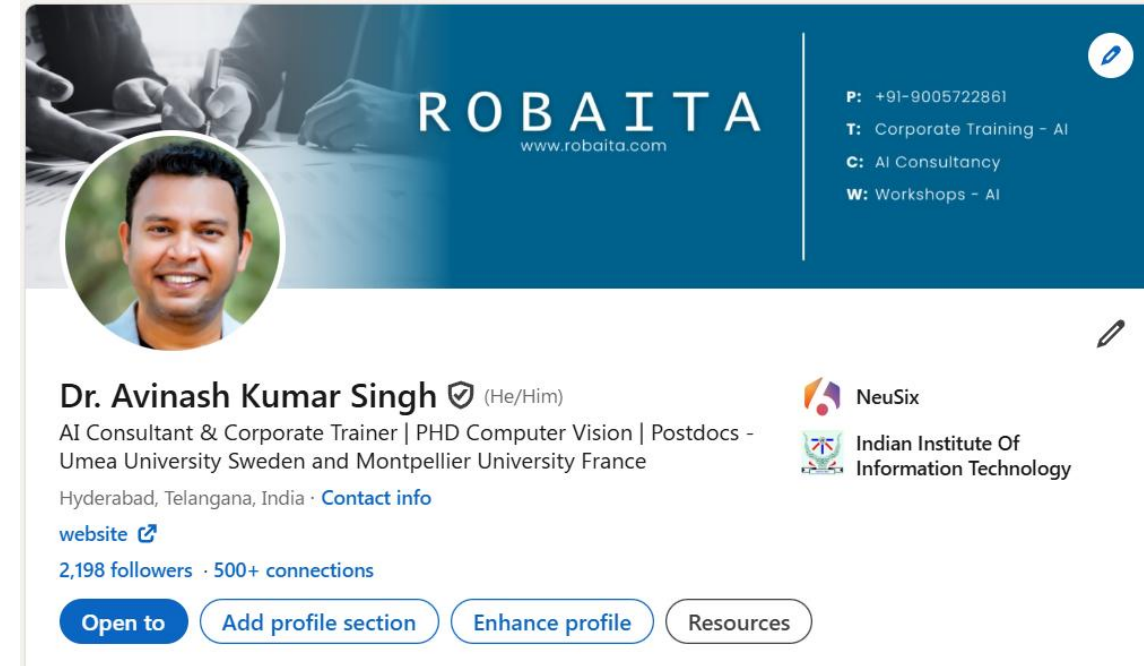
Dr. Avinash Kumar Singh

Robotics and Artificial Intelligence Training Academy



Dr. Avinash Kumar Singh

- ❑ **Possess** 15+ years of **hands-on expertise** in Machine Learning, Computer Vision, NLP, IoT, Robotics, and Generative AI.
- ❑ **Founded** Robaita—an initiative **empowering** individuals and organizations to **build, educate, and implement** AI solutions.
- ❑ **Earned** a Ph.D. in Human-Robot Interaction from IIIT Allahabad in 2016.
- ❑ **Received** postdoctoral fellowships at Umeå University, Sweden (2020) and Montpellier University, France (2021).
- ❑ **Authored** 30+ research papers in **high-impact** SCI journals and international conferences.
- ❑ Unlearning, learning, making mistakes ...



<https://www.linkedin.com/in/dr-avinash-kumar-singh-2a570a31/>



HCLTech



BRANE



ML Personas

Job Persona	Day-to-Day Tasks	Relevant Skills
Data Scientist [1]	<ul style="list-style-type: none">- Data cleaning, preprocessing- Feature engineering- Building and testing ML models- Analyzing trends	<ul style="list-style-type: none">- Python, R- Statistics- Machine Learning- SQL
Machine Learning Engineer [2]	<ul style="list-style-type: none">- Implementing ML models- Optimizing models for scalability- Model deployment and monitoring in production	<ul style="list-style-type: none">- TensorFlow, PyTorch- MLOps- Python- Cloud platforms
AI Researcher [3]	<ul style="list-style-type: none">- Conducting research- Prototyping new AI algorithms- Writing papers- Collaborating with academia or R&D teams	<ul style="list-style-type: none">- Deep Learning- Reinforcement Learning- Research methods

References

1. <https://hbr.org/2012/10/data-scientist-the-sexiest-job-of-the-21st-century>
2. <https://cloud.google.com/careers/ml-engineer-guide>
3. <https://www.nature.com/articles/d41586-019-03013-5>

ML Personas

Job Persona	Day-to-Day Tasks	Relevant Skills
Data Engineer [1]	<ul style="list-style-type: none">- Building and maintaining data pipelines- Optimizing databases- Managing data infrastructure	<ul style="list-style-type: none">- SQL- Python- ETL pipelines- Spark, Hadoop
MLOps Engineer [2]	<ul style="list-style-type: none">- Automating ML workflows- Managing CI/CD pipelines- Monitoring model performance in production	<ul style="list-style-type: none">- Docker, Kubernetes- CI/CD- Cloud platforms- Automation
AI Product Manager [3]	<ul style="list-style-type: none">- Defining AI product requirements- Managing AI project timelines- Communicating between technical teams and stakeholders	<ul style="list-style-type: none">- Product management- Machine Learning basics- Business analysis

References

1. <https://www.oreilly.com/library/view/data-engineering-for/9781492041953/>
2. <https://docs.microsoft.com/en-us/azure/machine-learning/concept-mlops>
3. <https://www.productschool.com/blog/product-management-2/what-does-ai-product-manager-do/>

ML Personas

Job Persona	Day-to-Day Tasks	Relevant Skills
Data Analyst [1]	<ul style="list-style-type: none">- Analyzing data and creating reports- Building dashboards- Supporting business decisions with data insights	<ul style="list-style-type: none">- Excel, SQL- Data visualization- Business intelligence tools
Deep Learning Engineer [2]	<ul style="list-style-type: none">- Designing deep learning models- Training and fine-tuning neural networks- Optimizing GPU performance	<ul style="list-style-type: none">- TensorFlow, PyTorch- Neural Networks- GPU programming
NLP Engineer [3]	<ul style="list-style-type: none">- Building NLP models- Text preprocessing- Training models for text classification, sentiment analysis	<ul style="list-style-type: none">- NLP libraries (Spacy, NLTK)- Transformers- Deep Learning

References

1. <https://www.glassdoor.com/job-listing/data-analyst-JV.htm>
2. <https://developer.nvidia.com/deep-learning>
3. <https://huggingface.co/transformers/>

ML Personas

Job Persona	Day-to-Day Tasks	Relevant Skills
Computer Vision Engineer [1]	<ul style="list-style-type: none">- Developing image recognition systems- Object detection and tracking- Video analysis	<ul style="list-style-type: none">- OpenCV- Python- Deep Learning- Image processing
AI/ML Consultant [2]	<ul style="list-style-type: none">- Advising businesses on AI adoption- Assessing business problems for AI solutions- Guiding AI implementation	<ul style="list-style-type: none">- Communication- Machine Learning- Problem-solving
Quantitative Analyst [3]	<ul style="list-style-type: none">- Developing financial models- Risk assessment and forecasting- Using ML for trading strategies	<ul style="list-style-type: none">- Statistics- Python, R- Finance- Machine Learning

References

1. <https://opencv.org/>
2. <https://www2.deloitte.com/global/en/pages/consulting/solutions/artificial-intelligence.html>
3. <https://www.investopedia.com/terms/q/quantitative-analyst.asp>

Indian Government Initiatives

Ministry of Electronics & IT



Cabinet Approves Over Rs 10,300 Crore for IndiaAI Mission, will Empower AI Startups and Expand Compute Infrastructure Access

“This approval of over 10,300 crores for the IndiaAI program will catalyze India’s AI ecosystem and position it as a force shaping the future of AI for India and for the world”: Union Minister Rajeev Chandrasekhar

“IndiaAI Financial Outlay to Benefit Kerala with its Immense Potential in AI Innovation & Startups”: Union Minister Rajeev Chandrasekhar

Posted On: 07 MAR 2024 8:05PM by PIB Delhi

Indian Government Initiatives

The screenshot displays the IndiaAI Portal, a website dedicated to AI initiatives in India. The header includes the IndiaAI logo (A MEITY INITIATIVE) and navigation links: Pillars, IndiaAI Portal, Resources, Ecosystem, and Sectors. A search icon and a 'Sign Up' button are also present. The main content area is divided into six categories, each with a title and a brief description:

- Events**: Latest events in AI locally and internationally
- Start Ups**: Discover top startup ideas in the world of AI
- Investment Funds**: VCs, PEs and other investors in AI today
- Colleges**: Top educational institutions offering courses in AI
- Companies**: Profiles of visionary companies leading AI research & innovation
- People**: India's brightest and most successful minds in AI research and development

On the right side, there is a vertical banner with a grid pattern and a 'Details here' button with a right-pointing arrow. The left side of the page features a vertical banner with the text 'Innovation in AI' and the logo of the Ministry of Electronics and Information Technology.

Jobs in Demand

Job Role	Salary Range (INR per annum)
AI Engineer	6,00,000 – 30,00,000
Machine Learning Engineer	6,00,000 – 20,00,000
Data Scientist	7,00,000 – 22,00,000
AI Research Scientist	10,00,000 – 30,00,000
Robotics Engineer	5,00,000 – 18,00,000
Natural Language Processing Specialist	6,00,000 – 25,00,000
Computer Vision Engineer	6,00,000 – 24,00,000
AI Product Manager	15,00,000 – 35,00,000

❑ **ServiceNow Study:** Predicts that AI could create approximately 2.73 million jobs in India by 2028, with the retail sector alone expected to add 6.96 million roles, highlighting opportunities for reskilling in areas like software application development and data engineering.

[Business Standard](#)

❑ **Naukri JobSpeak Report:** Indicates a 12% increase in new AI positions in January 2024 compared to the previous year, with significant year-on-year growth for roles such as Machine Learning Engineers (46%) and Full Stack AI Scientists (23%).

indiaai.gov.in

1. <https://www.simplilearn.com/ai-engineer-salary-article>
2. <https://mentormeright.in/blog/2024/11/08/the-rising-scope-of-artificial-intelligence-careers-in-india>

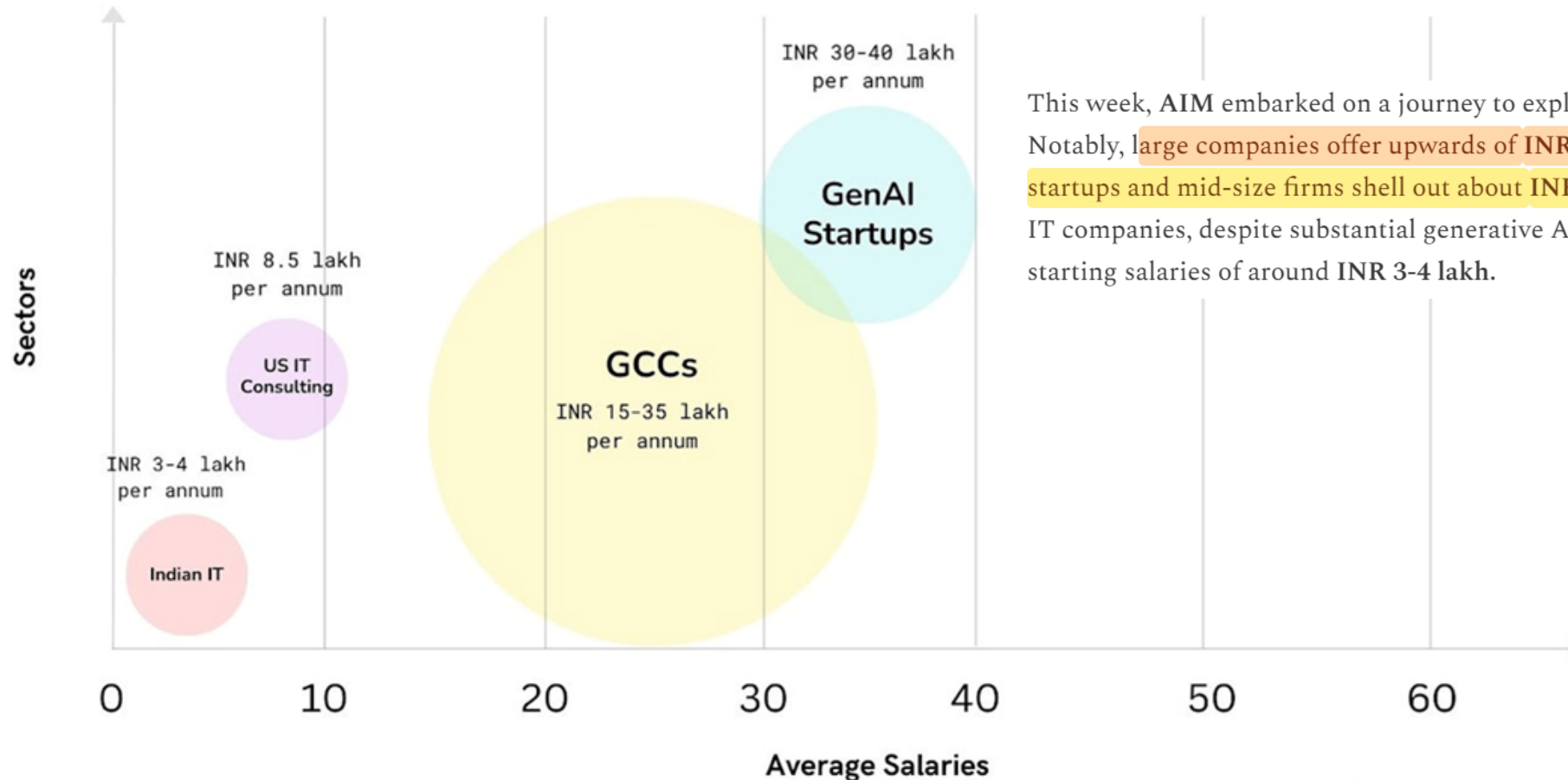


10 Highest-Paying AI Jobs & Careers in 2024



Average GenAI Salary in India

AI engineers with generative AI skills saw a significant 50% increase in their salary



This week, AIM embarked on a journey to explore generative AI salaries in India. Notably, large companies offer upwards of **INR 1 crore annually** for senior roles, while startups and mid-size firms shell out about **INR 30-40 lakh**. Meanwhile, major Indian IT companies, despite substantial generative AI training initiatives, are offering lower starting salaries of around INR 3-4 lakh.

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<https://analyticsindiamagazine.substack.com/p/generative-ai-salaries-in-india>

How to Prepare for ML Jobs

How to create a good Curriculum Vitae (CV)



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SENIOR SOLUTION LEADER, BRANE ENTERPRISES

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📍 **Hyderabad, India**

SKILLS

- **Artificial Intelligence**

Computer Vision, Natural Language
Processing, Machine Learning, Big Data

- **Robotics**

Human Robot Interaction, Human RObot
Collaboration

HONORS & AWARDS

2009: Received Gold Medal in MSc

2018: Received Postdoctoral Position from Umea University, Sweden

CERTIFICATIONS

2022: Introduction to Machine Learning in Production

INTERESTS

I like soccer, music..

OBJECTIVE

Fill in your Career's Objective

- + Shortterm (in the next 2 years).

Ex: Complete Diploma of Marketing at XYZ university, and be fluently about photoshop skill in the next 6 months

- + Longterm (In the next 3-5 years).

Ex: To be an CMO for ACB company, running at least 5 big sucessful campaigns for company

EDUCATION

- Full name of University/Organization

Your major/Name of your course

May 2010 - June 2015

- Describe the highlight information
- Exp: GPA, some subject

PROJECTS

- **Project Title**

Project Description

2016 - Now

Tools Used

- **Project Title**

Project Description

2015 - 2016

Tools Used:

INTERNSHIP

- **Organization Name**

Project Description

2014 - NOW

Tools Used

Put your full name and specialization with college name

DR. AVINASH KUMAR SINGH

SENIOR SOLUTION LEADER, BRANE ENTERPRISES



A good profile picture

Add your personal details

Male
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Hyderabad, India

SKILLS

- **Artificial Intelligence**
Computer Vision, Natural Language Processing, Machine Learning, Big Data
- **Robotics**
Human Robot Interaction, Human Robot Collaboration

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- **Project Title**
Project Description
Tools Used
2016 - Now
- **Project Title**
Project Description
Tools Used:
2015 - 2016

INTERNSHIP

- **Organization Name**
Project Description
Tools Used
2014 - NOW

Define your objective [few line summary of your self]

Provide details like school, board, major subjects and percentage

- 10th
- 12th
- Graduation

List down all the projects that you have done so far. Add below details

- Project Title
- Description
- Tools used

List down all the internships that you have done, if not then add the activities during college

Add your skills such as programming languages, HTML/JS design, etc

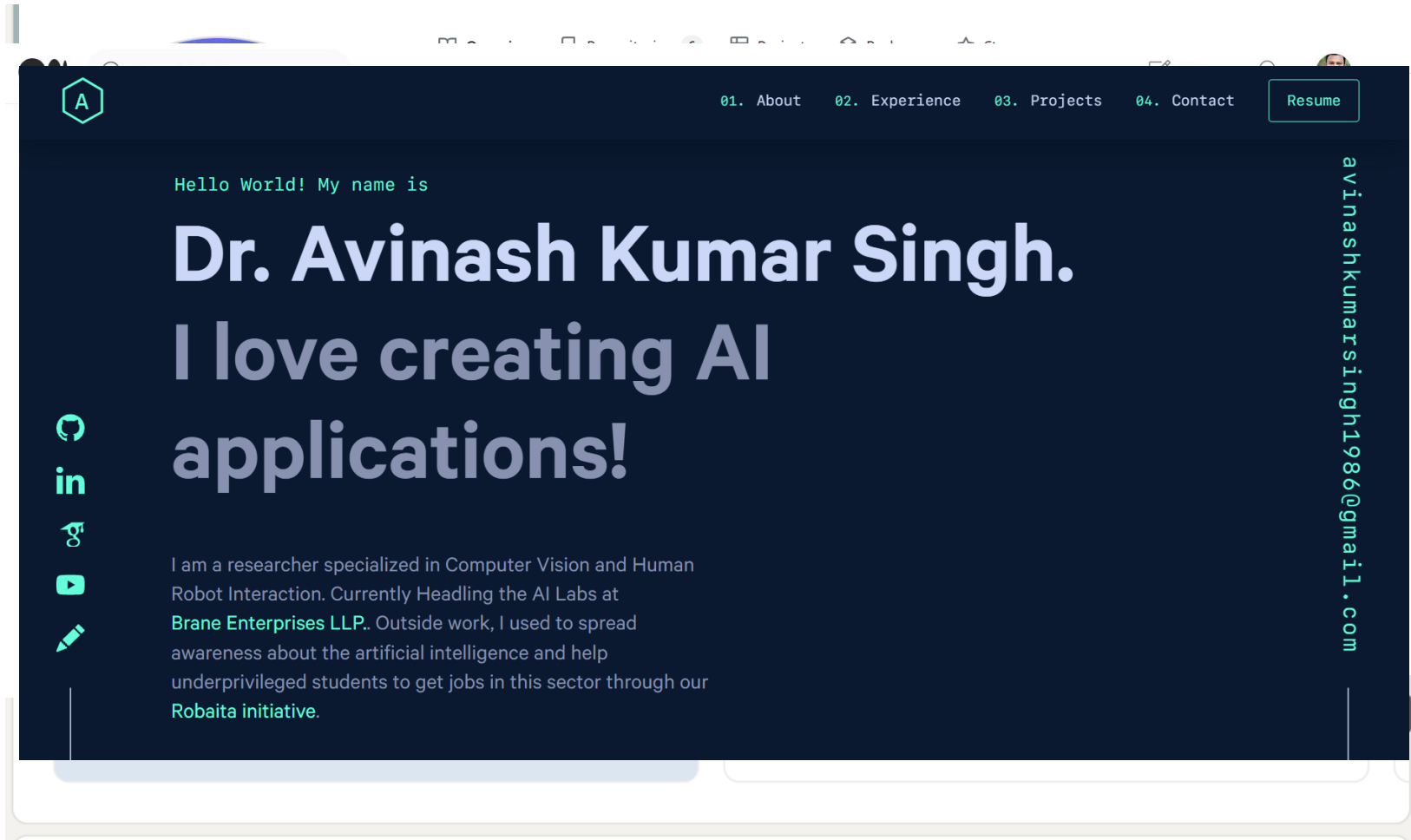
Add awards that you received during, 10th, 12th or in graduation. It could be for extra curriculum activities.

Put down certification acquired from Coursera, Udemy or any other source.

Add up few hobbies.

Put your global presence

- ☐ Linked IN
- ☐ Github
- ☐ Medium
- ☐ Person Web page



How to approach for internship/job

- ☐ Reach out people on LinkedIn
- ☐ Do google search about the position, and reach out to people on LinkedIn.
- ☐ Write a cover letter
- ☐ Attach your CU
- ☐ Share the Github Link for past project
- ☐ Share the Youtube Link for the past projects

Thanks for
your time