DS/AI

Self-Starter Handbook

BUILD YOUR OWN ROADMAP

Ankit Rathi

From a time around when DS/AI field started picking up, every other day I get at least 8–10 messages from DS/AI starters & enthusiasts on ‘How can I get into DS/AI field?’. Over a while, I have improvised my response based on the follow-up questions they ask like:

1. What is the difference between DS, ML, DL, AI, DM?

2. What are the roles in DS/AI, who does what?

3. What concepts, processes & tools they need to learn?

4. Which books, courses, etc they need to refer to?

5. How to build a DS/AI portfolio?

6. How to write a resume for DS/AI?

7. How to build a helpful network?

8. How to search for the job?

9. How to prepare for the interview?

10. How to stay up to date in this still-evolving field?

You can notice that these questions are not conceptual ones and there is no dedicated material to address these roadblocks. I thought why not to build a framework or a road-map for DS/AI starters and enthusiasts so that I need not to answer the same type of questions again and again. And that is when I started documenting what a starter or enthusiast need to do step by step in order to reach a level when he is ready to tackle any challenge thrown to him. My answer to the above questions in a structured way to help DS/AI starters & enthusiasts is this book. This book covers the framework to launch your DS/AI career in 8 chapters.

Ankit Rathi provides unique combination of Data Engineering (DB/ETL/DWH/BI)/Architecture (Data Management & Governance) & Data Science (ML/DL/AI) with more than a decade of demonstrated history of working in IT industry using Data & Analytics. His interest lies primarily in building end to end DS/AI applications/products following best practices of Data Engineering and Architecture.

In his free time, he blogs about various topics on DS/AI field & tries to simplify it for starters & enthusiasts.

ankitrathi.com

Rs 499/-

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DS/AI Self-Starter Handbook

Build Your Own Roadmap

Ankit Rathi

To my wife, Divya, who's always accepted me the way I am and supported my hustle, drive & ambition.

To my children, Aarsh & Driti, who are the reason to wake up every morning and work as hard as I can.

DS/AI Self-Starter handbook is a great resource for aspirants starting in the space of Data Science. It covers approach and useful resources that can help in your learning journey and written by one who himself is an Data Science practitioner. I recommend this to anyone who are aspiring to get into Data Science and are looking for insights on how and where to get started.

Srivatsan Srinivasan
Chief Data Scientist (Cognizant)

Wow, this is very impressive! It has taken some time to review, but WOW!
I should have had you as a co-author next time!!!

T. Scott Clendaniel
Chief Data Scientist (Legg Mason)

To be great data scientist you should emphasis on skillset and mindset. Where a lot of book that give you skill set, this is the first book I read that dedicating to shape data scientist mindset.

Nabih Ibrahim Bawazir
Data Science Head (Datanest)

Extremely laudable & heroic attempt to put all your thoughts and experience together to help people.

Sumit Pal
Big Data Architect (Qcentive)

Ankit has done a great job summarizing what is possibly one of the toughest and most frequently asked questions, "How to get started with data science?". Packed with information, this book will definitely be helpful for people from both academia and industry looking to get started on their own Data Science and AI journey.

Dipanjan Sarkar
Data Scientist (Rad Hat)

I think it is a brilliant book for starting Career in Data Science as New Entrants to Data Science often deviate from Path to reach End Goal and this Book tries to solve that Problem in a easy way. I would really like to Congratulate Ankit for Providing Data Science Career Steps in this useful manner.

Yatin Bhatia
Data Scientist (RxLogix)

An indispensable guide and a valuable resource for anyone seeking to enter the field of Data Science. Replete with great advice directly from the author's personal experience.

Parul Pandey
Data Science Evangelist (H2O.ai)

This book kicks you into the right direction definitely worth reading for the beginners trying to break into DS/AI.

Avik Jain
Machine Learning Intern (EMA Solutions)

If you are one among people struggling to identify the right book for data science, this book would probably help to understand where to start, how to prepare, how to develop the habit of continuous learning.

Vishnu Durgha Prasaad
Data Science Practitioner

About the Author

Ankit Rathi is currently working as a Lead Architect-DS/AI at SITA aero. He is a Data Science (ML/DL/AI) practitioner with more than a decade of demonstrated history of working in IT industry using Data & Analytics. His interest lies primarily in the theory & application of artificial intelligence, particularly in developing business applications for machine learning and deep learning. Ankit's work at SITA aero has revolved around designing FlightPredictor product & building the CoE capability. During his tenure as a Principal Consultant at Genpact HCM, Ankit architected and deployed machine learning pipelines for various clients across different industries like Insurance, F&A. He was previously a Tech Lead at RBS IDC where he designed and developed various data intensive applications in AML & Mortgages area. Ankit is a well-known author for various publications (Towards Data Science, Analytics Vidhya etc) on Medium where he actively contributes by writing blog-posts on concepts & latest trends in Data Science. His blog-series on 'Probability & Statistics for Data Science' has been well received by Data Science community in 2018. He is followed by around 30K data science practitioners & enthusiasts on LinkedIn.

U0.1: Webpage: *https://www.ankitrathi.com/*

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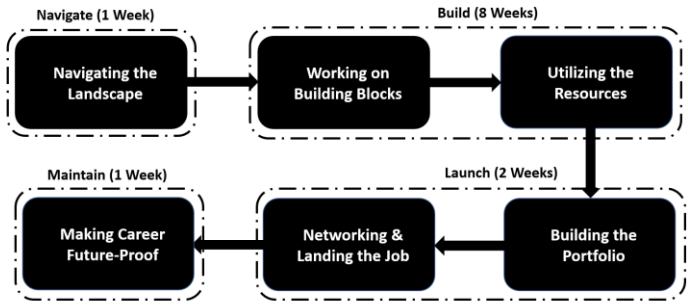
Putting It All Together

Now that you have covered each and everything from the content perspective. Let's reflect on what you have learnt and after that, I will give you few tips to overcome some learning obstacles.



Putting it All Together

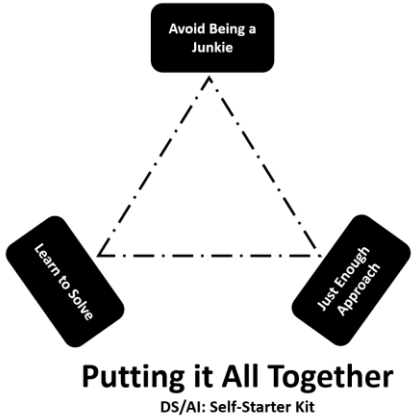
DS/AI: Self-Starter Kit

You can notice that all these activities can be completed in 12 weeks.

As I mentioned earlier that you can not be an expert in DS/AI in such a short time but I can ensure that you have all the knowledge, concepts, processes and tools and techniques available to you to tackle any challenge in DS/AI.

After going through the 'Navigate' step, you need to focus as much as you can on building your skills in 'Build' step, you can start some of the activities of 'Launch' step in parallel as it would help you to grasp and apply what you learnt in 'Build' step.

On your path to learn and build your skill-set in DS/AI, you will find many obstacles. Some of them I am covering here and what you need to do to overcome those obstacles.



8.1 Avoid Being a Junkie

Online learning is like Chocolate. You can't take just one online course or subscribe to just one newsletter/blog. Once you start, you want to have it all!

But the trouble with Chocolate is that, even if you eat the whole damn packet, you don't have enough. The only thing that stops you is that the packet is empty, your stomach is full, and you feel kind of sick. But your appetite doesn't really go away.

Similarly, having an unlimited access to all the online courses, MOOCs, webinars, workshops, challenges, e-books, blogs, TED talks, podcasts, and all the other free (or affordable) resources can get you in trouble.

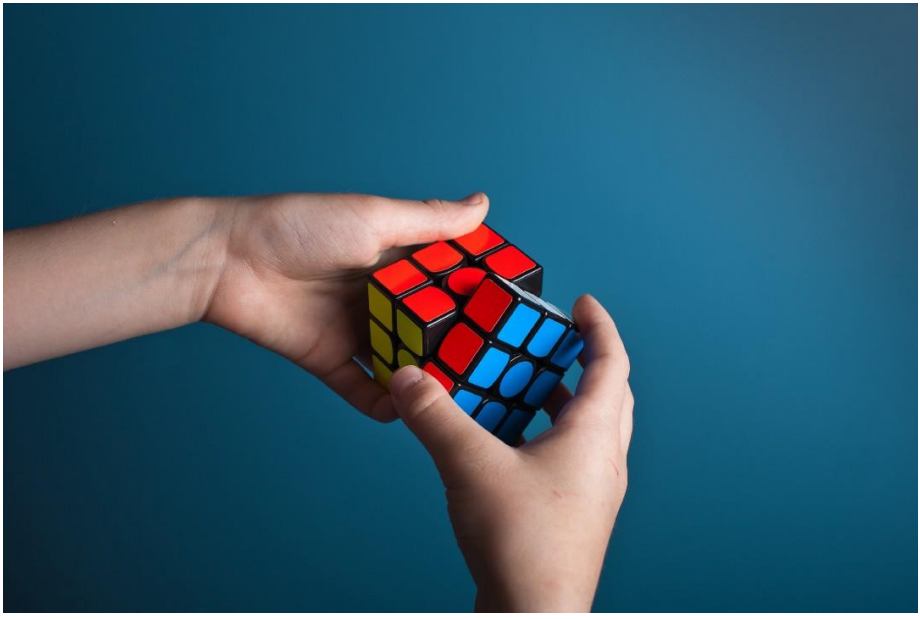
The key to avoiding the trouble is to prioritize, plan, schedule and log what you do. And analyse at regular interval how your progress is and what is working while what needs to be improvised.

When you subscribe to a webinar or an online course, put it in your calendar. Set up reminders; make a commitment to attend it as if it was compulsory. In case of live events, if you can't catch them live, schedule the time when you're going to watch the replay. When you watch a webinar or an online course, don't multitask. Close the door of your room, turn off your phone, and don't open other tabs to check Twitter. After the webinar/course video ends, take several minutes to debrief. Find something you can put into practice right away and put it on your to-do list.

At the end of the month, evaluate. What have you learned? What worked? What didn't?

Make a list of your favourite bloggers, podcasts, and other resources. Read them, listen to them or watch them as a part of your daily schedule. If you set aside time to do this, you will be able to concentrate on learning when you learn and to create when you create.

8.2 Learn to Solve



Learning is 20% information and 80% action.

If you aren't taking action, you aren't learning; you're just wasting time. The key to making learning more effective is Active Learning.

According to a study into learning-centred approaches to education, students learn more when they participate in the process of learning. Active learning is discussion, practice, review, or application. Problem-solving, exploring new concepts in groups. Working out the problem on a piece of paper.

Active learning is any learning activity in which where you participate or interact with the learning process, as opposed to passively taking in the information.

When given the opportunity to actively engage with the information you are learning, you perform better. It nurtures the brain, giving it an extended opportunity to connect new and old information, correct previous misconceptions, and reconsider existing thoughts or opinions.

Active learning encourages your brain to activate cognitive and sensory networks, which helps process and store new information. One more similar research at Cornell University found that learner attention starts to wane every 10–20 minutes during lectures — which means instructors are continuously fighting to keep attention. Incorporating regular, varied active learning moments is a great solution to recapture an audience.

Similarly, when you are learning DS/AI theory, try to apply as soon as what you have learnt. This will keep you engaged and motivated for a longer period of time.

8.3 Just Enough Approach

Just Enough Approach is learning just enough to perform a specific task. As we saw in the above sections that it does not help to be a course junkie. You need to learn in order to solve a problem. So don't get into an endless learning loop and just learn enough to solve the problem at hand.

Unless you apply what you have learnt, there is no benefit of learning. And the depth in the theory of DS/AI is kind of endless, without any problem to solve, you may go as much deep as you want and still get no idea how to apply what you have learnt.

I always suggest my students to apply Just Enough Approach while learning DS/AI. This is the path of optimal learning, you learn the concept and solve the problem as well.

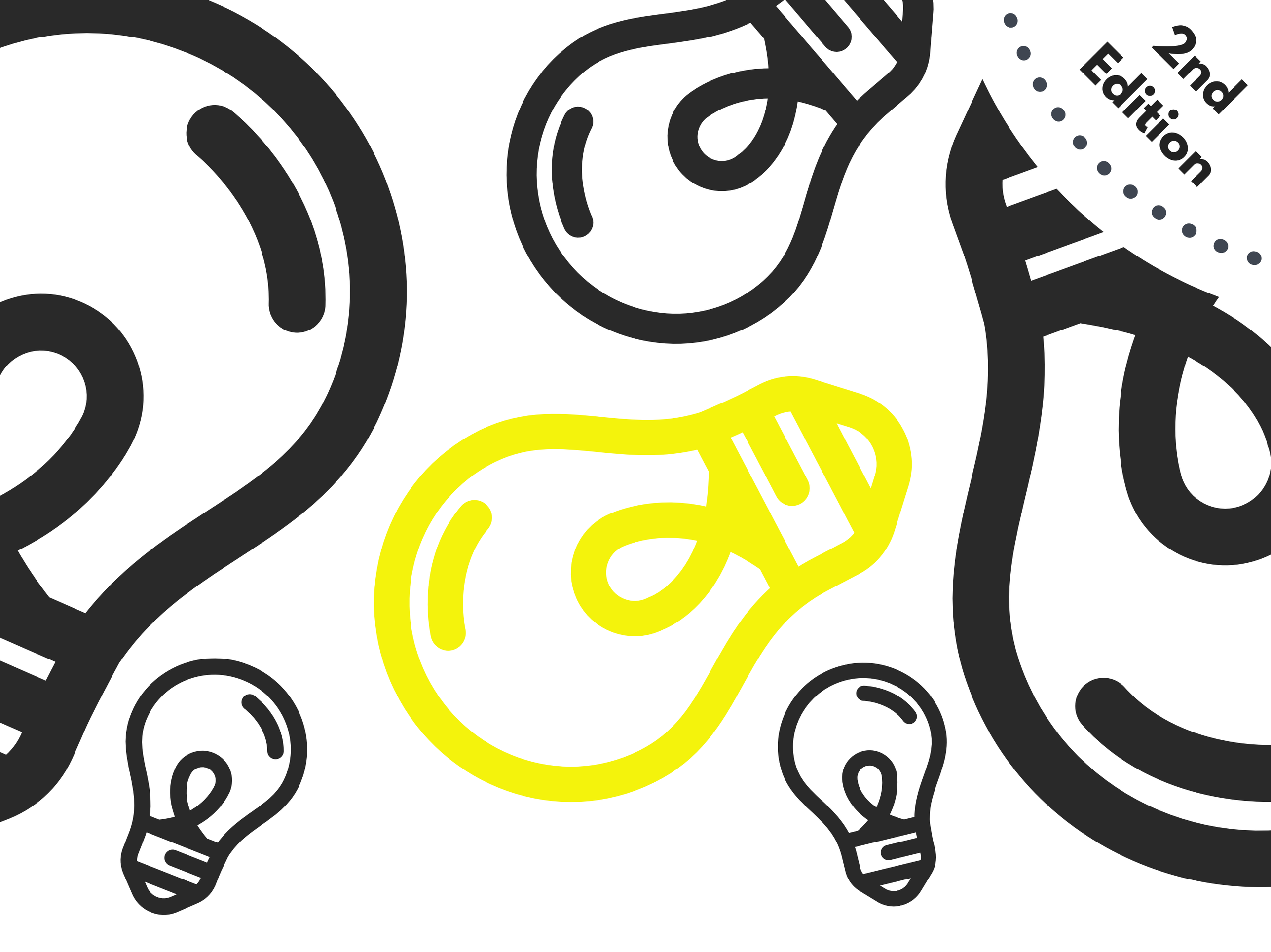
As we learnt in this chapter, there are few obstacles in the path of learning and application of DS/AI and you can overcome them by just being aware that they exist.

8.4 Conclusion

We have looked at the overall landscape, what are DS/AI terminologies and what are the roles in DS/AI projects. Then we worked on the building blocks by listing out what are the concepts, processes, and tools you need to learn. After that, we listed the resources we need to refer to during the learning stage.
Post that we learned how to build an impressive portfolio. How we can start building a network and prepare for the interview in order to search and land the job. Then we looked at the ways to make our career future-proof.

Now you have all the knowledge, concepts, processes & tools with you to tackle any challenge you face in DS/AI field.

I believe all the content provided in this book is helpful to you. If you liked (or not) the content, I would ask you to provide your feedback to me.



Artificial Intelligence

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Ankit Rathi

Coming Soon… 2nd Edition

with revised content & 3 more chapters…

ankitrathi.com

From a time around when AI field started picking up, every other day I get many questions from AI starters & enthusiasts on ‘How can I get into AI field?’. Over a while, I have improvised my response based on the follow-up questions they ask like:

- What is AI and why is it important?
- What is the difference between AI, ML, DL, DS, DM, BI?
- What an end-to-end AI project looks like?
- What are the roles in AI projects, who does what?
- What AI concepts & tools you need to learn?
- Which books, courses, channels etc you need to refer to?
- How to practice & build an AI portfolio?
- How to write a resume for an AI role?
- How to build a helpful network?
- How to search for the job?
- How to prepare for the interview?
- How to switch into an AI role (inside or outside)?
- How to lead an AI initiative in your organization?
- How to stay up-to-date in this ever-evolving field?

You can notice that these questions are not conceptual ones and there is no dedicated material to address these roadblocks. I thought why not to build a framework or a road-map for AI starters and enthusiasts so that I need not answer the same type of questions again and again. And that is when I started documenting what a starter or enthusiast need to do step by step in order to reach a level when he is ready to tackle any challenge thrown to him. My answer to the above questions in a structured way to help AI starters & enthusiasts is this book. This book covers the framework to launch your AI career in 11 chapters.

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