How to Start a Career in AI

Four most important steps to starting a career in AI, seven big questions answered.

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How do I start a career as a deep learning engineer? What are some of the key tools and frameworks used in AI? How do I learn more about ethics in AI?

Everyone has questions, but the most common questions in AI always return to this: how do I get involved?

Cutting through the hype to share fundamental principles for building a career in AI, a group of AI professionals gathered at NVIDIA's GTC conference in the spring offered what may be the best place to start.

Each panelist, in a conversation with NVIDIA's Louis Stewart, head of strategic initiatives for the developer ecosystem, came to the industry from very different places.

Watch the session on demand .

But the speakers — Katie Kallot, NVIDIA's former head of global developer relations and emerging areas; David Ajoku, founder of startup aware.ai; Sheila Beladinejad, CEO of Canada Tech; and Teemu Roos, professor at the University of Helsinki — returned again and again to four basic principles.

The best way to start, Ajoku explained, is to find people who are where you want to be in five years.

And don't just look for them online — on Twitter and LinkedIn. Look for opportunities to connect with others in your community and at professional events who are going where you want to be.

"You want to find people you admire, find people who walk the path you want to be on over the next five years," Ajoku said. "It doesn't just come to you; you have to go get it."

At the same time, be generous about sharing what you know with others. "You want to find people who will teach, and in teaching, you will learn," he added.

But the best place to start is knowing that reaching out is okay.

"When I started my career in computer science, I didn't even know I should be seeking a mentor," Beladinejad said, echoing remarks from the other panelists.

"I learned not to be shy, to ask for support and seek help whenever you get stuck on something — always have the confidence to approach your professors and classmates," she added.

Kallot explained that the best way to learn is by doing.

She got a degree in political science and learned about technology — including how to code — while working in the industry.

She started out as a sales and marketing analyst, then leaped to a product manager role.

"I had to learn everything about AI in three months, and at the same time I had to learn to use the product, I had to learn to code," she said.

The best experience, explained Roos, is to surround yourself with people on the same learning journey, whether they're learning online or in person.

"Don't do it alone. If you can, grab your friends, grab your colleagues, maybe start a study group and create a curriculum," he said. "Meet once a week, twice a week — it's much more fun that way."

You'll also need the communications skills to explain what you're learning, and doing, in AI as you progress.

"Practice talking about technical topics to non-technical audiences," Stewart said.

Ajoku recommended learning and practicing public speaking.

Ajoku took an acting class at Carnegie Mellon University. Similarly, Roos took an improv comedy class.

Others on the panel learned to perform, publicly, through dance and sports.

"The more you're cross-trained, the more comfortable you're going to be and the better you're going to be able to express yourself in any environment," Stewart said.

The most important element, however, comes from within, the panelists said.

They urged listeners to find a reason, something that drives them to stay motivated on their journey.

For some, it's environmental issues. Others are driven by a desire to make technology more accessible. Or to help make the industry more inclusive, panelists said.

"It's helpful for anyone if you have a topic that you're passionate about," Beladinejad said. "That would help keep you going, keep your motivation up."

Whatever you do, "do it with passion," Stewart said. "Do it with purpose."

Throughout the conversation, thousands of virtual attendees submitted more than 350 questions about how to get started in their AI careers.

Among them:

What's the best way to learn about deep learning?

The NVIDIA Deep Learning Institute offers a huge variety of hands-on courses.

Even more resources for new and experienced developers alike are available through the NVIDIA Developer program , which includes resources for those pursuing higher education and research .

Massive open online courses — or MOOCs — have made learning about technical subjects more accessible than ever. One panelist suggested looking for classes taught by Stanford Professor Andrew Ng on Coursera.

"There are many MOOC courses out there, YouTube videos and books — I highly recommend finding a study buddy as well," another wrote.

"Join technical and professional networks … get some experience through volunteering, participating in a Kaggle competition, etc."

What are some of the most prevalent tools and frameworks used in machine learning and AI in industry? Which ones are crucial to landing a first job or internship in the field? The best way to figure out which technologies you want to start with, one panelist suggested, is to think about what you want to do.

Another suggested, however, that learning Python isn't a bad place to begin.

"A lot of today's AI tools are based on Python," they wrote. "You can't go wrong by mastering Python."

"The technology is evolving rapidly, so many of today's AI developers are constantly learning new things. Having software fundamentals like data structures and common languages like Python and C++ will help set you up to 'learn on the job,'" another added.

What's the best way to start getting experience in the field? Do personal projects count as experience?

Student clubs, online developer communities, volunteering and personal projects are all a great way to gain hands-on experience, panelists wrote.

And definitely include personal projects on your resume, another added.

Is there an age limit for getting involved in AI?

Age isn't at all a barrier, whether you're just starting out or transitioning from another field, panelists wrote.

Build a portfolio for yourself so you can better demonstrate your skills and abilities — that's what should count.

Employers should be able to easily realize your potential and skills.

I want to build a tech startup with some form of AI as the engine driving the solution to solve an as-yet-to-be-determined problem. What pointers do you have for entrepreneurs?

Entrepreneurs should apply to be a part of NVIDIA Inception .

The program provides free benefits, such as technical support, go-to-market support, preferred pricing on hardware and access to its VC alliance for funding.

Which programming language is best for AI?

Python is widely used in deep learning, machine learning and data science. The programming language is at the center of a thriving ecosystem of deep learning frameworks and developer tools. It's predominantly used for training complex models and for real-time inference for web-based services.

C/C++ is a popular programming language for self-driving cars which is used for deploying models for real-time inference.

Those getting started, though, will want to make sure they're familiar with a broad array of tools, not just Python.

The NVIDIA Deep Learning Institute's beginner self-paced courses can be one of the best ways to get oriented.

At NVIDIA GTC, a global conference on AI and the metaverse, professionals spoke about how they got started in their careers.

Watch the on-demand GTC sessions How to Be a Deep Learning Engineer and 5 Paths to a Career in AI .

Learn the AI essentials from NVIDIA fast: check out the "getting started" resources to explore the fundamentals of today's hottest technologies on our learning series page .

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