

Robotics: An Exciting and Addicting Career for Engineers

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These are the hard and soft skills needed for a successful career in robotics.

Traci Browne | Apr 01, 2023

Whether you are feeling stuck in your current job or have been enamored with robots since you were a kid, now might be the right time to choose the field of **robotics**. After all, robots are used in almost every sector, including **healthcare**, manufacturing, **warehousing**, and even education.

We asked Marc-Henri Frouin, CEO of Niryo, a French startup designing and engineering desktop collaborative robots, about career opportunities in robotics.

“There’s no ‘hot job’ in robotics. It is truly, just a constellation of rare competencies working together. Beyond appearances, titles in robotics often escape the hype train. First and foremost, coordination is key; software engineering and mechanical engineering work closely to provide intelligence, novelty, and reliability,” said Frouin. “Professional barriers are almost unknown to our field: a robot is, in the end, a connected tool with embedded software intelligence. Of course, a robot has specific traits and features, but it is still a machine at the end of the day.”

He said that at Niryo’s headquarters, no one came to the company directly from robotics. “Our engineers’ strength resides in their capacity to cultivate intelligence in their field and to apply it to robotic use cases.”

Frouin also said they are less interested in discussing specific jobs when they are looking to hire. They are more interested in how a person thinks and approaches their work. “From the beginning, we’ve been, and still are, on the lookout for people truly understanding the robotic field in its broad sense. We are looking for engineers who understand how their peers reason and anticipate what can be done or not according to their peers’

abilities, said Frouin. “For instance, if in your mind you imagine a great circle, but your colleague can only make a system work with tiny squares, you must be able to anticipate this, even if it's not your part of the collective job per se. That is the capacity to think outside one’s box while embracing specialization and even hyperspecialization.”

Skills Needed for a Career in Robotics

A few soft skills they value are transparent communication, the ability to trust people who are not necessarily peers, and the ability to accept clear feedback and constructive criticism. Regarding hard skills, Niryo is looking for candidates that can search, process, and sort technical information.

“That is the one hard skill that can save an engineer’s day anytime, anyplace,” said Frouin.

He warns that robotics’ two fundamental weaknesses are that it is an exciting field and addictive. “So exciting that it’s too easy to work uselessly on useless robots. The best engineer will always stay close to the existing need, no matter what he does. Discipline and precise answers to defined needs are key and excellent guides on a daily basis.”

For engineers studying in school, Frouin says, “please, specialize! Wide ‘robot engineering’ is not a good bet on the long haul.” He is talking about specializations such as software engineer, vision engineer, AI engineer, mechanical engineer, or mechatronic engineer.

For seasoned engineers looking to switch to robotics, Frouin said he has three words of advice, “read the documentation,” meaning that senior engineers should not avoid basic information and studies because they would think they know best thanks to their seniority. “No matter past victories, humility and patience are required for a successful entry to the field.”

If you want to make that leap into a **robotics career**, Frouin suggests you demonstrate a global understanding of what’s going on to adapt to new fields and flourish fully. That and the skills mentioned above are what it takes to land a job in the growing and exciting field of robotics.