

Powering Defence Technology with Artificial Intelligence

Sun Yi Jing

THE SPACE TO INNOVATE AND EXPERIMENT GIVES YI JING THE CHANCE TO GROW CONTINUOUSLY AND CONTRIBUTE TO SINGAPORE'S DEFENCE MEANINGFULLY.

Getting started

I have always believed that data can transform the way we approach problems, and that prompted me to major in data science and analytics at university. As I learnt more, I was enthralled by the diverse applications and potential of data science.

As a technology-driven and innovative company, the Defence Science and Technology Agency (DSTA) allowed me to kickstart my career and pursue my interests further while also giving me the chance to contribute to Singapore's defence.

About my job

As an engineer with DSTA's Information Programme Centre, I design and develop software to help MINDEF and the SAF gain a more detailed picture of their information space to better protect against external threats.

I am currently leading the development of an Artificial Intelligence Operations (AIOps) system. When errors arise in complex systems, it may be difficult to monitor the system manually to identify and isolate the issue. AIOps streamlines this workflow by leveraging AI and machine learning to automate the process. Beyond reducing manpower requirements and improving work efficiency, AIOps alleviates the cognitive load imposed on the ops personnel and allows them to focus on other important tasks.

As the system was highly customised, I had to try out various possibilities to achieve the most effective solution. It was immensely satisfying when I delivered the system, knowing that I was involved every step of the way.

What I enjoy most about my job

DSTA gives us the space to innovate and experiment. I get to tinker with various emerging technologies and be creative in how I find solutions. This keeps me engaged in my work and makes me think on my feet constantly.

I also get to expand my horizons by working with various local and overseas research institutions such as the Agency for Science, Technology and Research (A*STAR) and Carnegie Mellon University (CMU). So far, I have collaborated with A*STAR on a system that translates informal language, and also developed a system that summarises multilingual publications with CMU. It is extremely exciting and fulfilling to be able to exchange perspectives with experts.

Then and now

My projects have grown in complexity over time, which has motivated me to pick up new competencies such as data analytics, AI, and more. In DSTA, we are given plenty of opportunities to grow. We can attend milestone courses at our very own DSTA Academy, as well as go for external courses to further our skills.

Thanks to DSTA's open and dynamic culture that encourages strong teamwork, I can bounce ideas off my teammates easily during brainstorming sessions. My mentors have also been very generous with their knowledge, and I can always approach them for guidance whenever needed.

Essential skills

Beyond technical skills, it is crucial to have a positive attitude towards learning. Technology is always moving at breakneck speed, and we have to keep exploring the latest advancements to stay ahead.

It is also important to expose yourself to



Sun Yi Jing

Engineer with the Defence Science and Technology Agency (DSTA)

2020: Graduated with a Bachelor of Science (Honours) in Data Science and Analytics from the National University of Singapore (NUS)

2020: Joined DSTA as an Engineer with Information Programme Centre

2022: Led the development of an artificial intelligence (AI) project from design to delivery

new experiences. For instance, I was a mentor at DSTA's digital learning fest BrainHack, where I guided a group of students in generating deep fake videos with AI models. It allowed me to discover the mentor in myself, and opened up my mind to the fresh perspectives they offered to the subject.

Advice for graduates

Embrace a positive mindset. Keep an open mind, and always find opportunities to learn and gain new skills. This will ensure that you stay innovative and create meaningful systems for Singapore's defence.

"DSTA gives us the space to innovate and experiment. I get to tinker with various emerging technologies and be creative in how I find solutions."