DIVERSE OPPORTUNITIES IN DEFENCE TECHNOLOGY

The Defence Science and Technology Agency (DSTA) Scholarship is a platform for the next generation of defence engineers and scientists to develop deep technical expertise and experience diverse career opportunities.

By Fiona Liaw

Singapore's defence and security is a multi-faceted arena and one that requires a strong technological community to uphold and maintain. This is where DSTA and DSO National Laboratories (DSO) come in. Their team of talented engineers and scientists specialise in developing cutting-edge technological solutions for Singapore's defence.

DSTA scholars Ong Khoon Kiat and Lam Cheng Yen, from DSTA and DSO respectively, share with us about their exciting and fulfilling careers thus far.

WHAT PROPELLED YOU TO TAKE UP THE DSTA SCHOLARSHIP?

**Ong Khoon Kiat:** When I was younger, I was an avid player of military strategy games. This sparked my interest in military technology and software programming. I started developing my own computer games when I was 13, and decided that I wanted to pursue software engineering as a career. I was drawn to DSTA specifically, as it offered the opportunity to apply engineering skills in solving real issues for our nation's defence.

Lam Cheng Yen: Back in my JC days, I took on a project with DSTA as part of the Young Defence Scientists Programme. I enjoyed it so much that I was sold to the idea of a career in our defence industry. I was so certain of my decision that the DSTA Scholarship was the only scholarship that I applied for.

TELL US MORE ABOUT YOUR JOB.

Khoon Kiat: I manage the development of Command and Control systems used by MINDEF/SAF which support operations in the areas of Counter-Terrorism and Military intelligence. I particularly enjoy the challenge of integrating multiple disruptive technologies like Artificial Intelligence and mobile technologies for example, to develop leading-edge capabilities. As requirements in this area of work are quickly evolving, my team and I have to rapidly develop prototypes that we can test during operations or exercises. We also think further and try to identify the improvements we can make to enhance the processes, efficiency and experience of our MINDEF and SAF partners.

Cheng Yen: My role as a Software Engineer is to design and develop software subsystems, with robustness, maintainability and efficiency as our priority. The software subsystems include controllers,
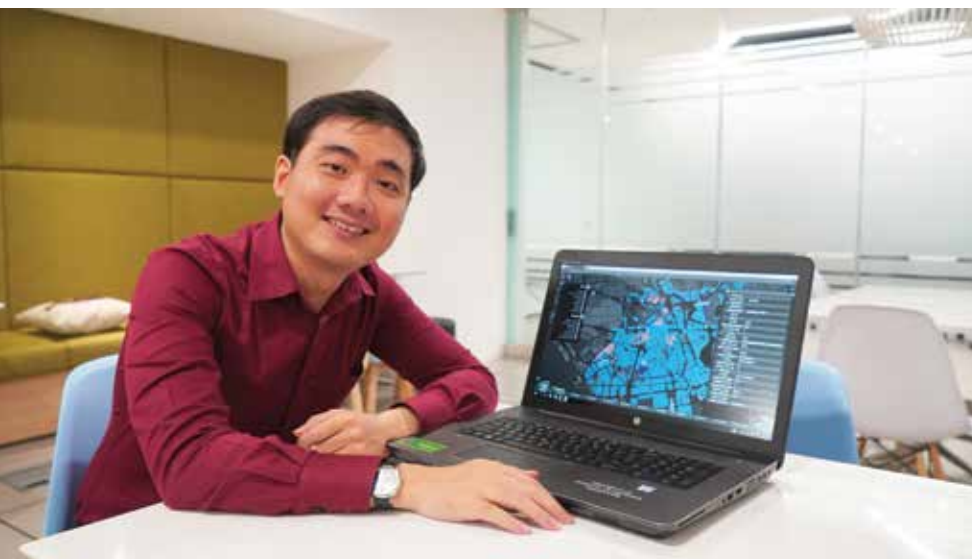
ONG KHOON KIAT
DSTA SCHOLAR

Development Manager, C4I Development Programme Centre
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signal processing and graphical user interfaces. Each of them has their own unique requirements and focus.

For an example, optimisation of the code is vital for signal processing, whereas user-friendliness is the key to a good graphical user interface. Software Engineers are more heavily involved in the development part of Research and Development (R&D), and we deliver products that will be used by the Singapore Armed Forces (SAF).

COULD YOU SHARE ABOUT SOME OPPORTUNITIES FOR DEVELOPMENT?

Khoon Kiat: At DSTA, I am exposed to a diverse range of roles that hone my technical and business competencies. From researching on new technologies to applying them to new domains, and managing a team to deliver these solutions to our partners.

Learning on the job is also complemented by in-house courses conducted by DSTA Academy, which help to progressively build my leadership and technical proficiencies. I also had the opportunity to attend overseas conferences such as the International Big Data Expo in the US. Attending such conferences help me gain a better understanding of the emerging commercial technologies that could be applied back to my work at DSTA.

Cheng Yen: I completed two internships with the organisation as an undergraduate. I particularly enjoyed my time at DSO, where I worked at the

Sensors Division, and helped develop a front-end electronics module for a sensor in an Autonomous Underwater Vehicle. Back then, I had zero experience designing and developing electronics modules but I received a lot of guidance from my mentor and the other engineers.

The culture of knowledge sharing in DSO allowed me to overcome the steep learning curve during the internship within a short span of time and also helped me realise my interest in being deployed to DSO, where I am today!

WHAT CAN THE NEXT GENERATION OF DSTA SCHOLARS EXPECT?

Khoon Kiat: At DSTA, we are constantly exploring emerging technologies, and finding the best ways to integrate them into the solutions we build to enhance our nation's defence. It is easy to get caught up in the razzle and dazzle aspects of technology, but at DSTA we do serious work. The well-being of our armed forces and citizens as a whole are dependent on the things we build. While it is a unique opportunity, it is also a serious responsibility.

Cheng Yen: At DSO, you will get to work with some of brightest minds within the defence R&D industry. You will be directly involved in developing new and innovative solutions for SAF, to enhance our country's defence. Working in DSO is never boring or repetitive, and you will be happy here if you enjoy the thrill of being constantly challenged.

LAM CHENG YEN
DSTA SCHOLAR

Software Engineer, Sensors Division
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