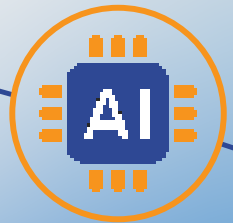


YDSP CONGRESS

28 APRIL 2026



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PROGRAMME FOR YDSP CONGRESS 2026

Time

Programme

▶ 3.00pm

**Keynote Address by Guest-of-Honour
Mr Zaqy Mohamad
Senior Minister of State for Defence**

**Presentation of YDSP Scholarship and
DSTA Junior College Scholarship awards
by Guest-of-Honour**

**Project Presentations by Participants of
YDSP Activities**

**Tea Reception and Exhibition of Projects
by Participants of YDSP Activities**

▶ 5.00pm

End



OVERVIEW OF YDSP ACTIVITIES 2025

YDSP Science and Technology Camp
2 Jun to 6 Jun 2025

► **Artificial Intelligence in Cybersecurity**

Can Artificial Intelligence (AI) be the ultimate shield against invisible threats? Over the course of a five-day camp in DSTA, 95 students from 19 schools dove headfirst into the digital trenches of AI in Cybersecurity. They engineered machine learning solutions through hands-on coding, rigorous system hardening and testing and were also exposed to digital security tools such as Burp AI and large language models (LLM) like SecurityLLM. The intense and fun filled camp concluded with the participants competing in their groups in Attack-Defence Capture-the-Flag games to exploit vulnerabilities and engineer resilient infrastructure defence.





OVERVIEW OF YDSP ACTIVITIES 2025

YDSP Science and Technology Camp
24 Nov to 28 Nov 2025

► Unmanned Naval Systems

What does it take to guard our waters without any humans on board? 94 students from 19 schools found out by stepping into the shoes of Naval engineers to learn about Unmanned Naval Systems, specifically the engineering that brings these vessels to life. The participants at the camp did not just study blueprints - they built their own Unmanned Surface Vessels (USV) from scratch, using machine design and fabrication technology, motors, Light Detection and Ranging (LiDAR) sensors and communications. Under the guidance of experienced instructors, they learnt to program their USV via a block-based coding platform and Python. To see how tech comes to life, they were also granted an exclusive tour at the DSTA Experience Centre, witnessing the cutting-edge technology used by Singapore today.

The five-day adrenaline filled camp was wrapped up with a thrilling series of Naval Mission Challenges, where student-built USVs navigated complex courses in a large pool to prove their mission readiness.



OVERVIEW OF YDSP ACTIVITIES 2025

YDSP WORLD OF SCIENCE
2 Jun to 27 Jun 2025

185 students experienced the exciting world of defence R&D through lectures, lab visits, and hands-on activities over eight modules ranging from physical sciences to infocomm technologies critical to Singapore's defence and national security.

► **Aerodynamics Module**

24 students uncovered the secrets behind flying machines at this four-day workshop where they learnt from experts, tried their hands at flying using a flight simulator, and built their own gliders!

► **Artificial Intelligence Module**

Held over four fun-filled days at DSO, 24 students explored and learnt about the latest trends in Artificial Intelligence (AI) such as Natural Language Processing, Computer Vision, Adversarial AI, and its applications in defence. Participants designed and fine-tuned their own AI models, and they competed in team-based challenges while crafting adversarial inputs to test and outsmart one another's systems. They built a machine learning framework for custom action recognition in computer vision, which culminated in an exciting dance-off competition. Stepping into the role of adversaries, students also got to uncover vulnerabilities in AI models, reinforcing the importance of building secure and resilient AI applications.

► **Cryptography Module**

29 theory enthusiasts were introduced to techniques in classical and modern cryptography, focusing on the algorithms used to realise them in the real world and the mathematical foundations that underscore their security. The course featured lectures and hands-on activities that familiarised students with both designing and breaking cryptographic schemes. Through this, the participants gained a deeper understanding of how these theoretical concepts directly influence the security of the communication networks used in defence and beyond.



OVERVIEW OF YDSP ACTIVITIES 2025

▶ Computer Security Module

24 students learnt what it's like to be a cybersecurity researcher in this four-day workshop. From testing of web applications for vulnerabilities to uncovering a PIN code, this module exposed students to the various aspects of computer security.

▶ Electromagnetics Module

Over three days, 24 students explored various electromagnetic (EM) applications through a series of exciting demonstrations and hands-on activities, such as building their own antennas and electromagnetic coil launchers. To learn about EM in the real world, they also visited the advanced EM test and measurement facilities within Temasek Laboratories at the National University of Singapore (NUS).

▶ Robotics Module

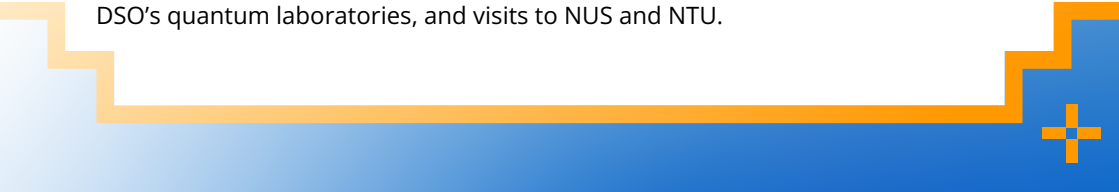
Held across five days, this workshop guided 20 students through a hands-on learning experience in robotics, with participants learning the basics in areas such as 3D printing, electronics design, sensors integration, and programming in C++. Applying their new skills in robotics, the students built their own robots and faced off in a friendly mini-competition!

▶ Remote Sensing Technologies Module

In this four-day module, 20 students explored various sensing technologies crucial to defence, such as sonar, radar, and signal processing, and learnt how these sensor technologies aid real-time sense-making and decision-making. At the end of the module, they put their newly-acquired knowledge to the test in a multi-player game of Battleship.

▶ Quantum Technologies Module

20 students gained insights into the life-changing future applications of quantum technologies. In the five-day workshop, they experienced a series of hands-on experiments to investigate interferometry and superconductivity, lab tours around DSO's quantum laboratories, and visits to NUS and NTU.




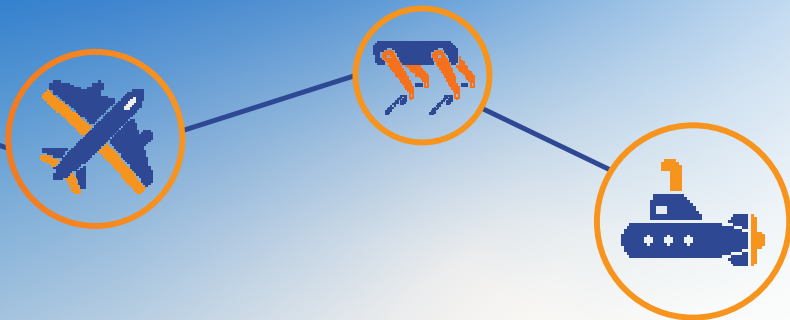


OVERVIEW OF YDSP ACTIVITIES 2025

Research@YDSP
Mar to Dec 2025

This year, 91 students stepped out of the classroom and deep dive into the world of defence tech in DSTA and DSO. Through the Research@YDSP internship, these individuals spent four to nine months with engineers and scientists from DSTA and DSO and worked on exciting hands-on defence-related projects. From the intricacies of cybersecurity, machine learning and artificial intelligence to the frontiers of unmanned systems, aerodynamics, machine learning and robotics, the students did more than study the future, they helped build it.





YDSP SCHOLARSHIP

The YDSP Scholarship is awarded to Secondary 3 and equivalent students who have a passion for science and technology.

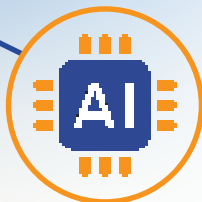


YDSP SCHOLARSHIP RECIPIENTS

Name	School
Chang Swee Shenn, Samuel	Anglo-Chinese School (Independent)
Luke Emmanuel Ho Kai En	Anglo-Chinese School (Independent)
Chua Yu Zer Elkin	Catholic High School
Korneliuz Tan Zhao Xing	Catholic High School
Chan Yao En, Joelle	Cedar Girls' Secondary School
Kaelyn Loh	CHIJ St Nicholas Girls' School
Rachel Koh Lixin	CHIJ St Nicholas Girls' School
Lee Le Yi	Dunman High School
Tan Jun Yang Ethan	Dunman High School
Joshua Yam	Hwa Chong Institution
Lovasz Ng Shean Ray	Hwa Chong Institution
Mun Si Ying Zoey	Methodist Girls' School
Tan Hwei Syn	Methodist Girls' School
Liew Yi Xuan	Nanyang Girls' High School
Annis Guee Ling Xuan	National Junior College
Anton Chia Su Yi	National Junior College
Tan Jing Yu	National Junior College
Yee Hong Shyan	NUS High School of Mathematics and Science

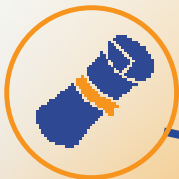
YDSP SCHOLARSHIP RECIPIENTS

Name	School
Charmaine Chua Jing Min	Raffles Girls' School
Chloe Oh Jia'En	Raffles Girls' School
Lim Jun Ting, Skyler	Raffles Institution
Ooi Yi Kai	Raffles Institution
Ang Myn Yen	River Valley High School
Cheong Zun Hoi, Lucas	River Valley High School
Khoo Yuheng	River Valley High School
Giselle Chua (Cai Weiling)	Singapore Chinese Girls' School
Ong Hui Xuan Ashlyn	Singapore Chinese Girls' School
Ryan Isaac Koenig	St. Joseph's Institution
Sharon Koh	Temasek Junior College
Chin Goon Sun	Victoria School



DSTA JUNIOR COLLEGE SCHOLARSHIP

The DSTA Junior College Scholarship is awarded to first-year junior college and equivalent students who have achieved all-round excellence and a passion for science and technology.



DSTA JUNIOR COLLEGE SCHOLARSHIP RECIPIENTS

Name	School
Arkin Talukdar	Anglo-Chinese School (Independent)
Ian Lai Kai'en	Anglo-Chinese School (Independent)
See Toh Edward Chee Foon	Anglo-Chinese School (Independent)
Chen Xuanyu Jazenne	Dunman High School
Chiam Kye Chyi Caitlin	Dunman High School
Ng Min Song	Dunman High School
Kate Lee Sze Teng	Eunoia Junior College
Lew Wei De Lewis (Liu Weide)	Eunoia Junior College
Lim Rui Xin, Nicole	Eunoia Junior College
Anastasia Yang Rui Yan	Hwa Chong Institution
Chew Yong Le	Hwa Chong Institution
Lee Zi Yu	Hwa Chong Institution
Loo Guan Yong	Hwa Chong Institution
Yu Yifei	Hwa Chong Institution
Alistair Tan Yi	National Junior College
Tiong Rui En, Maggie	National Junior College
Chokkalingam Rohidkumar	NUS High School of Mathematics and Science
Jayden Hoo Dun Jie	NUS High School of Mathematics and Science
Jonathan Wirawan	NUS High School of Mathematics and Science
Malcolm Lee Jun Hao	NUS High School of Mathematics and Science
Tew Gun Rui	NUS High School of Mathematics and Science

DSTA JUNIOR COLLEGE SCHOLARSHIP RECIPIENTS

Name	School
Aevean Cheong Swee Jun (Zhang Ruijin)	Raffles Institution
Cao Yong Xin Jasmine	Raffles Institution
Christine Lee Lin Shan	Raffles Institution
Jerome Zhou Jierong	Raffles Institution
Klarisse Ng Shee Chin (Huang Shiqing)	Raffles Institution
Lau Jing Xian	Raffles Institution
Siew Bok Chong	Raffles Institution
Tu Meiyi Mary	Raffles Institution
Wang Zerui	Raffles Institution
Ethan Bai Yixuan	River Valley High School
Lin Hongxun	St. Joseph's Institution
Tai Kai Xuan	Temasek Junior College
Wong Zheng Xuan Javier	Temasek Junior College
See Kaishen, Bryan	Victoria Junior College

THANK YOU FOR YOUR SUPPORT!

We would like to thank the following schools for their strong support of YDSP activities and the YDSP and DSTA Junior College Scholarships.

Anglo-Chinese School (Independent)

Catholic High School

Cedar Girls' Secondary School

CHIJ St Nicholas Girls' School

Dunman High School

Eunioia Junior College

Hwa Chong Institution

Methodist Girls' School

Nanyang Girls' High School

National Junior College

NUS High School of Mathematics and Science

Raffles Girls' School

Raffles Institution

River Valley High School

Singapore Chinese Girls' School

St. Joseph's Institution

Temasek Junior College

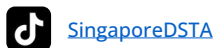
Victoria Junior College

Victoria School

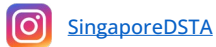


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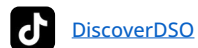


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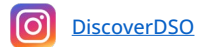


www.dso.org.sg

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