NUS COMPUTING INDUSTRY NEWSLETTER

ISSUE NO #40 | OCTOBER 2025

CSIT: Advancing Singapore's digital security

Centre for Strategic Infocomm Technologies

We're excited to welcome the Centre for Strategic Infocomm Technologies (CSIT) to the iConnect community!

The Centre for Strategic Infocomm Technologies (CSIT) is a technical agency in the Ministry of Defence that provides advanced cybersecurity services and secured digital solutions for Singapore's digital defence. CSIT's technical focus includes Cybersecurity, Data Analytics and Artificial Intelligence, Software Engineering, and Cloud Infrastructure and Services.

CSIT is a member of the Defence Technology Community. For more information, please visit www.csit.gov.sg

Hear from NUS Alumni

Ryan
Mobile Security Engineer
Graduating Class of 2024

"

Beyond the work culture, what can those joining CSIT expect?

CSIT has been a great place for my career growth. The onboarding and comprehensive in-house training opened my eyes to real technical capabilities and helped me quickly get up to speed in my work. CSIT encourages continuous learning through local and overseas conferences and courses. There is also the flexibility to explore different career paths, and I even had opportunities to share my team's interesting work with the wider community. The friendly vibe and tight-knit teams make it a fun and rewarding place to work.

What is one piece of advice you would like to give your juniors?

Starting your first job can feel pretty scary as we transition from being a student to a working professional. Everything feels uncertain and risky at first. For me, hearing good things about CSIT's learning culture was a big reason I took up the CSIT scholarship. So, if I could give one piece of advice to my juniors, it would be to find a workplace with a strong, supportive culture. That kind of environment will give you a solid foundation to grow your career and take on new challenges.

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How would you describe the work culture at CSIT?

It's great! The work culture at CSIT is collaborative, supportive and purpose driven. Having been here for a year, I have met many like-minded individuals who share a strong commitment to the mission. There is a strong emphasis on continuous learning, whether through professional formal training, mentorship, or hands-on experience.

What has been the most rewarding part of your career at CSIT?

The most rewarding part is knowing that the work I do contributes to national security. It is fulfilling to see how our efforts directly support national priorities and make a difference. On a personal level, I have also found it rewarding to grow alongside talented colleagues who continually inspire me to push my boundaries.

Vevek
Software Engineer
Graduating Class of 2023

RESEARCH SPOTLIGHT

How AI Models Learn to Read – and Learn From – Unnatural Language

While the AI world has long treated "unnatural language" – strings of characters that don't resemble any human grammar – as side effects, bugs, or even exploits, a recent research breakthrough led by Assistant Professor Michael Shieh **developed a method to systematically generate unnatural language.** Using a gradient-based sampling technique, they trained models to find unnatural strings that were semantically equivalent to natural ones. In other words, the model could "read" the gibberish and translate it back to the original message with high probability.

This research suggests that LLMs are more robust and flexible than previously assumed. It open up new avenues for **adversarial testing, low resource training alternatives, steganography and encrypted prompts.** This highlights the need to rethink AI alignment and interpretability, moving beyond simple input-output pairs but understand the abstract representational geometry that lets models decode gibberish as meaning and decide what they what they are really "learning".

Featured Faculty
Michael Shieh
Assistant Professor

Read more:
https://www.comp.nus.edu.sg/features/how-ai-models-learn-to-read-and-learn-from-unnatural-language/

When AI Talks in Groups: How Multi-Agent Systems May Be Shaping Your Opinions

Led by Assistant Professor Lee Yi-Chieh, the research paper entitled **"Investigating Social Influence of Multiple Agents in Human-Agent Interactions,"** received the Top Paper Award from the Human-Machine Communication division of the International Communication Association (ICA) at their 75th Annual Conference It dives into whether **AI collectives can exert social pressure, alter opinions, and even trigger psychological defense mechanisms like reactance.**

Multi-agent systems do influence people and the potential uses of multi-agent influence are vast. A virtual support group of AI agents could reinforce healthy norms in wellness coaching or act as multi-agent tutors in education, guiding students with diverse perspectives. However, coordinated AI agents could be used to shape opinions covertly.

Featured Faculty
Lee Yi-Chieh
Assistant Professor

This study represents a major step forward in our understanding of how AI systems function not just as tools, but as social actors. When multiple agents interact with a person, they don't just share information; they **shape perception, nudge opinions, and create emotional responses.**

Read more:
https://www.comp.nus.edu.sg/features/when-ai-talks-in-groups-how-multi-agent-systems-may-be-shaping-your-opinions/

NUS COMPUTING

AI-X: INDUSTRY DAY

in partnership with IMDA Technical Sharing Session

📅 18 November 2025   🕐 9.00am - 4.00pm

📍 Shaw Foundation Alumni House Auditorium
11 Kent Ridge Drive Singapore 119244

Join a vibrant community of industry and academic experts for a day of networking and discovery. Experience firsthand the latest cutting-edge technology research from the NUS School of Computing, gain insights from thought leaders, and explore exciting opportunities for collaboration.

Exciting highlights include:

Industry Technical Research Sharing

Engaging Panel Discussion

Breakout Room Discussions

Secure your spot today! Register here:
For any enquiries, please contact Shi Yun at shiyun_phuan@nus.edu.sg

MORE THAN 20 RESEARCH DEMOS FOR YOU TO EXPLORE!

THE TRANSFORMATIVE POWER OF GENERATIVE AI: REVOLUTIONIZING LANGUAGE MODELING WITH TRANSFORMER (SESSION 2)

24 and 25 November 2025, 9am - 4pm
NUS School of Computing

Workshop Instructor:

Dr Christian Von Der Weth
Senior Lecturer & Assistant Dean, Communications
https://www.comp.nus.edu.sg/cs/people/chris/

Large Language Models (LLMs) have revolutionized how machines understand and generate human language. All current LLMs are powered by the Transformer architecture. Its power lies in a mechanism called self-attention enabling a deep, nuanced grasp of context, meaning, and even subtle tone.

In this workshop, we will take a deep dive into the Transformer architecture and its use for training LLMs. Beyond the individual components of the Transformer architecture, we will also cover their challenges and recent advances, as well as common strategies for using Transformer-based LLMs in practice (e.g., fine-tuning, RAG).

Recommended Skill Sets:
- Basic math knowledge (linear algebra, probability theory, calculus)
- Basic proficiency in Python (ideally also in the PyTorch library)

The workshop is aimed at practitioners, AI engineers, data scientists, etc. looking for a better understanding of how LLMs work under the hood – beyond just using an existing LLM such as ChatGPT as a black box.

Exclusive to Computing Members: Unlock quarterly, high-impact workshops for your team. Join our membership from $5,000/year and enroll at least two participants per organization to gain access to every session. For registration and more details, email shiyun_phuan@nus.edu.sg.
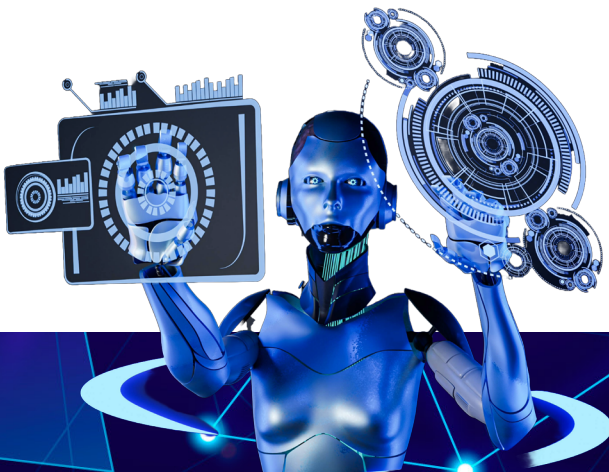
Computing Internship Programmes (Jan to Jun 2026)

Digital Transformation Leadership Programme

The Digital Transformation Leadership Programme (DTLP), course IS4010 is a unit-bearing full-time internship programme that is offered twice a year for **students from these programmes**:

- Bachelor of Computing in Business Artificial Intelligence Systems/Information Systems
- Bachelor of Science in Business Analytics

About the Internship Programme

The aim of this course is to develop future digital transformation leaders through an experiential learning journey, combining seminars led by faculty and industry experts with a six-month, student-led digital transformation project internship.

The next internship period will be happening 5 Jan 2026 to 19 Jun 2026. Employers can now submit internship postings from **14 Jul 2025 to 31 Oct 2025.**

Information about DTLP   **Guide for Employers**

Advanced Technology Attachement Programme

The Advanced Technology Attachment Programme (ATAP), course CP3880, is a unit-bearing full-time internship programme that is offered twice a year, available to all School of Computing students. The programme will give students the opportunity to apply their academic knowledge to industry skills.

About the Internship Programme

The aim of this course is to provide students with the opportunity to gain extended industry experience through a six-month attachment. Students will work on real-world projects and meaningful initiatives, apply their academic knowledge in professional settings, and develop both technical and soft skills essential for their future careers.

The next internship period will be happening 5 Jan 2026 to 19 Jun 2026. Employers can now submit internship postings from **14 Jul 2025 to 31 Oct 2025.**

Information about ATAP   **Guide for Employers**

Capstone Projects Proposal Schedule

Master of Computing – General Track

This capstone internship provides an opportunity for students to work on solving problems beyond the formal classroom setting.

Structure	4 months individual internship with a company
Company Submission Period	Nov 2025 - Mar 2026
Internship Period	Mid-May - Mid-Sep 2026
Contact	gt-capst@comp.nus.edu.sg

Master of Science in Digital Financial Technology (MSc DFinTech)

The MSc DFinTech Capstone internship requires students to have experiential learning in academic research, translational research or software development.

Structure	4-6 months individual internship with a company
Company Submission Period	Nov 2025 - Mar 2026
Internship Period	Mid-May - Mid-Oct/Nov 2025
Contact	msc-dft-capstone@comp.nus.edu.sg

Master of Science in Business Analytics (MSBA)

The industry-linked professional consulting capstone project requires students to analyse and provide solutions to today's real-world business analytics problems.

Structure	4 months individual internship with a company
Company Submission Period	Jan 2026 - Apr 2026
Project Period	May 2026 - Aug 2026
Contact	MSBA@nus.edu.sg

Business Analytics (Undergraduate)

Students are expected to solve a real-world business analytics project proposed by a company which could include (but not limited to): data analytics, machine learning, design and development of interactive and performance dashboard, and data mining.

Structure	3 months group project with a company. Work to be done in NUS	
Company Submission Period	Nov 2025 - Dec 2025	Jun 2025 - Jul 2025
Project Period	Jan 2026 - April 2026	Aug 2025 - Nov 2025
Contact	dispsaa@nus.edu.sg	

Business Artificial Intelligence Systems (Undergraduate)

Students are required to develop a complete AI solution incorporating elements of data engineering, machine learning modelling, and software engineering to address a real-world problem. They will apply modern best practices, such as Agile methodology, DataOps, and MLOps, throughout the solutioning process.

Structure	3 months group project developing business AI system for company. Work to be done in NUS.	
Company Submission Period	Nov 2025 - Dec 2025	Jun 2025 - Jul 2025
Project Period	Jan 2026 - April 2026	Aug 2025 - Nov 2025
Contact	hsianghui@nus.edu.sg	wee-kek.tan@nus.edu.sg

Learn more

Follow us on social media

Check out our upcoming in-class programmes

Boost your career with future-ready skills – from AI and analytics to product management and web development. Practical, industry-focused and designed to keep you ahead.

Professional Certificate in Applied Machine Learning
Starts 7 Nov 2025 (Thurs)
Duration: 7 Days
Registration Closes: 24 Oct (Fri)

Professional Certificate in Business Analytics
Starts 19 Nov 2025 (Wed)
Duration: 7 Days
Registration Closes: 5 Nov (Wed)

Professional Certificate in Digital Product Management
Starts 10 Nov 2025 (Mon)
Duration: 7 Days
Registration Closes: 27 Oct (Mon)

Professional Certificate in Web and Mobile Application Development
Starts 26 Nov 2025 (Wed)
Duration: 6 Days
Registration Closes: 12 Nov (Wed)

Contact us for more details

soc-ace@nus.edu.sg

Funding Options Available (Terms and Conditions Apply)

NUS School of Computing

Partner with Us

Join our exclusive industry programmes to connect with students and explore cutting-edge research collaboration.

01 iConnect Membership

Priority Access

Have priority arrangements at NUS School of Computing career fairs.

Student Outreach

Reach out to computing students through various media (e.g interactive TVs placed at strategic locations in the school, online platforms and social media).

Seminars

Share insights and career opportunities through seminars at NUS School of Computing.

02 Research Membership

Knowledge Sessions

Invitations to exclusive talks on emerging themes in technology, keeping your organisation informed and ahead.

Technical Workshops

Upskill your team: access to customised technical workshops designed and delivered by our experts.

Co-Hosted Workshops

Opportunities to collaborate with SoC on tailored half-day workshops, exchanging research ideas and partnership possibilities.

iConnect
SoC Industry Relations

iConnect

Research

Find Out More