



ESD

NEWSLETTER

2026

Professor Rakesh Nagi
Head of Pillar, ESD
Director of Aviation Studies Institute (ASI), SUTD
Cheng Tsang Man Chair Professor

Greetings from ESD Head of Pillar

Dear ESD Community,

Welcome to a new and exciting academic year! ESD is at the forefront of educational transformation in the AI age. We are blending Design x AI x [ESD] Domain to empower a new generation of ESD graduates. SUTD refers to us as trilingual design innovators. ESD is the pioneer of Process AI or Operations AI, and our domain impacts key sectors of the economy like aviation, logistics and supply chain, finance, and government, to name a few. We don't always do physical design, but we orchestrate real systems and design operational algorithms for profitable enterprises. From data to decision, our graduates are leading the engineers of the economy!

The human is at the centre of this new Design.AI revolution. We are trying even harder to empower our students with critical thinking and ethical reasoning, where the agency resides with the human – you! Data privacy and accountability should always be maintained when using GenAI systems. And, finally, we are curating opportunities starting from Term 4, the Data and Business Analytics course, to expose students to facing the clients, understanding real-world problems, and orchestrating data-driven solutions, embodying the “DIVE” principles of SUTD!

It is all about human decision-making, enabled by AI, but squarely owned and implemented by the human for explainable and optimal decisions (note courses on optimisation and heuristics).

Enjoy the newsletter where we celebrate our faculty, student awards, experiences, and accomplishments. We are very proud of our alumni. Our employment outcomes remain strong in an uncertain economy, and a number of our graduates continue their quest for doctoral studies!

In closing, ESD is a strong, close-knit community. We are a unique pillar in terms of our culture and are proud of calling it home! I invite you to read and enjoy the newsletter as we build ESD's journey to new levels of excellence!

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Key Dates

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(Jan 2027)

GEXP-Special Programme
Briefing
(Nov 2026)

Faculty News

Fresh Faces



Xingran Chen
Assistant Professor
PhD in Electrical and Systems Engineering,
University of Pennsylvania



Muqing Cao
Faculty Fellow
PhD in Electrical and Electronic Engineering,
Nanyang Technological University

Meet
ESD Faculty



Fond Farewell

We extend our heartfelt thanks to our departing faculty for their dedication, mentorship and contributions to ESD. Your impact on our students and community will be long remembered, and we wish you the very best in your next chapter.



Meixia Lin
Assistant Professor



Karthyek Murthy
Associate Professor

Meet our ESD Term 4 Course Instructors

40.002 Optimisation
Assistant Professor
Antonios Varvitsiotis

40.011 Data and Business Analytics
Dr. Ying Xu & Dr. Douglas Rolph

40.017 Probability and Statistics
Dr. Zeyu Sun & Dr. Young Lee



SUTD Champion 2026

Congratulations to Dr. Sun for receiving the SUTD Champion - Excellence Award (Individual) for his outstanding demonstration of SUTD's behaviour competencies and exemplifying the unique DNA of SUTD!



Read about
ESD Term 4
Courses

Student Spotlight

40.011 Data and Business Analytics Project Showcase

In Term 4, Spring 2026, students completed 24 industry-sponsored projects with 15 partner organisations, addressing challenges across healthcare, logistics, technology, and transportation. Their work was showcased to over 200 industry leaders, faculty, students, prospective students and industry partners at the DBA Project Showcase.

Beyond the presentations, the showcase fostered networking, internships, and future collaborations. Industry partners praised students' professionalism, analytical thinking, and impactful data-driven recommendations, reinforcing the value of experiential learning in preparing graduates for industry.



Credit Bureau Singapore Data and Business Analytics Project Award Winner 2026

Team 20

(From left to right) Joash Lim, Shetty Arya Dinesh, Mr. Rob Pennington (CBS), Hillary Fransiskus, Uwais Ahamed Abdul Kadir, Keagan Guay

"For our DBA project, our team developed a Multi-Modal RAG system designed to solve complex data retrieval challenges for our external client. The journey from conceptualisation to our final build was demanding but incredibly rewarding. We spent weeks continuously iterating on our technical architecture and figuring out how to align our system with the client's actual business constraints.

Ultimately, our biggest takeaway was realising that successful engineering isn't just about the code; it's about bridging the gap between technical execution and commercial objectives. For incoming ESD students taking this course, our advice is to embrace the iterative nature of working with external stakeholders. Don't rush to build right away. Take the time to deeply understand your client's core problem, and remember that communicating your progress is just as important as the system you engineer."

"In April 2026, we held our first Optimisation Project Showcase. In this term project, ESD students tackled complex real-world optimisation problems arising in areas such as aviation, power systems, sustainability, machine learning, and quantum computing using mixed-integer linear programming methods."

- Assistant Prof. Antonios Varvitsiotis, Course Lead

40.002 Optimisation Project Showcase



Student Spotlight

40.015 Simulation Modelling and Analysis Project Showcase



View the SMA projects videos here ↗



ESD Juniors (Term 6) are challenged to identify and analyse complex engineering systems using simulation models, and critically evaluate competing design alternatives using appropriate statistical techniques.

Capstone Project Winners 2026

Congratulations to ESD students and their Capstone teams for winning top 3 prizes for Sustainability Award and Design AI Award at InspireCon 2026!



3rd Place, Sustainability Award
Team: EvoFlow
ESD students:
Bishmit Rout (3rd from left),
Anay Shastri (2nd from right)



2nd Place, Sustainability Award
Team: NibbleLab - Tangled
ESD student:
Tan Boon Kai (1st from right)



1st Place, Sustainability Award
Team: ARTE (Autonomous Robot for Transporting Equipment)
ESD student:
Chen Chuxin (2nd from left)



1st Place, Design AI Award
Team: Co-Pilot Pyxis
ESD student:
Ng Wei Hao (3rd from right)



2nd Place, Design AI Award
Team: Advance
ESD student:
Le Duy (2nd from right)



3rd Place, Design AI Award
Team: Delta - Customer Care Chat Bot
ESD student:
Tan Chong Hao (2nd from right)

Student Spotlight

Singapore Universities Student Exchange Programme (SUSEP)

Aron Lee - ESD Senior

Spring 2026, Singapore Management University



“ My SUSEP exchange at SMU gave me the opportunity to experience a very different university environment while still studying in Singapore. One of the highlights was working with students from diverse majors such as Business, Social Sciences and Computer Science, which brought fresh perspectives to group projects. I especially enjoyed seeing how business students approached problems from strategy and management angles, complementing my ESD background. My advice to future ESD students is to go in with an open mind, take the initiative to meet new people, and make full use of the flexibility that SUSEP offers. It is a great opportunity to experience a different learning culture and broaden your perspective.



Global Exchange Programme (GEXP)

“ In the land of fire-and-ice, I was warmed by the vibrancy of the exchange student community and locals. Despite the differences in our lives and cultures, we shared surprising similarities in our goals, aspirations and struggles. Iceland's UNESCO-recognised swimming pool culture, with its communal hot-and-cold water baths and saunas, is a must-do. Ditch your inner introvert to organise and join activities e.g. road trips and make new friends and memories amidst the breathtaking Icelandic nature.

Most importantly, take this chance to open your eyes and mind to the vastness of the world beyond our little red dot.



Kinson Gan - ESD Senior
Spring 2026, Reykjavik University



Student Spotlight

March 2026

ESD Bonding Session

This year's ESD bonding session adopted a relaxed, informal format, with students from different batches dropping by throughout the evening for food and casual interaction.

Food naturally encouraged conversations between students who might not usually interact, while the flexible format allowed everyone to drop in and leave freely throughout the evening.

Jackbox games kept the atmosphere lively and encouraged easy participation, helping students across batches connect, unwind, and interact in a casual, welcoming setting.

May 2026

Lean Lego Workshop

As part of Term 5 Manufacturing and Service Operations class, students build a mock production line using Lego bricks to mimic real-world manufacturing environments.

The activity teaches Lean manufacturing principles, waste reduction, push vs pull production systems and line balancing.



Resources for ESD Students

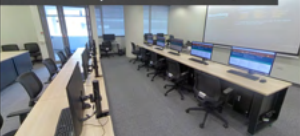


Dialogue Session with HOP



ESD
Facilities

Data Analytics Lab (1.610)



Systems Design Studio (1.615)



Celebrating Achievements Beyond Classroom



Sng Zhenhao
ESD Junior

**Curious today,
more impactful
tomorrow.**



NYC x TalentGeist Work Simulation Programme

"I completed the NYC x TalentGeist Work Simulation Programme, which paired masterclasses from industry professionals with a real-world business case project.

My project involved developing a five-year, US\$10 million go-to-market strategy for Shopee Pickup Points' expansion into Thailand. I used a six-market Southeast Asia screening framework to select Thailand as the target market, then proposed a "Surface-Subsidise-Socialise" adoption strategy projected to lift pickup point adoption from approximately 10% to 35% by Year 5. The programme sharpened my ability to structure ambiguous business problems, build a data-driven market entry case, and communicate strategic recommendations clearly, skills that complement my more technical and quantitative project work."



Volunteering at Institute of Mental Health

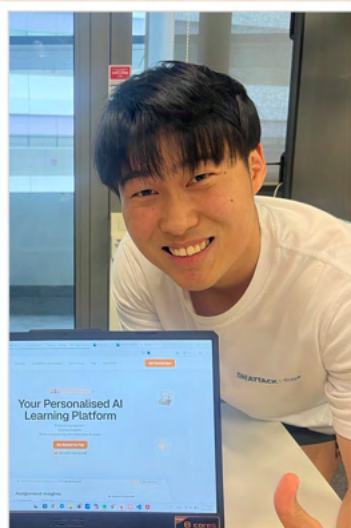
"As a volunteer with the Institute of Mental Health, I supported the BRAVE mental health study, a nationwide initiative to understand the prevalence of mental health conditions among adolescents and children in Singapore.

My role involved recruiting participants for the study, engaging with families and young people to explain the study's purpose and encourage participation in a sensitive and important area of public health research. This experience gave me a deeper appreciation for the scale of mental health challenges facing Singapore's youth and the importance of accessible, well-designed research in informing policy and support systems. It also strengthened my communication skills, particularly in explaining complex or sensitive topics clearly and building trust quickly with people I had just met."

From Spark to Startup

Yeo Yu Siang
ESD Senior
Co-Founder of Korosen

Responsible for product strategy, business development and overall directions of the venture



About Korosen

Korosen (<https://www.korosen.com/>) is a teacher-centred AI learning platform that helps reduce educator workload while enabling more personalised support for students. It combines automated marking, real-time learning insights, Socratic AI tutoring and targeted practice to help teachers identify learning gaps and intervene more effectively.

Korosen was inspired by a problem we saw repeatedly in education: teachers are increasingly overworked, yet many students still do not receive the individual support they need. Students from families who can afford private tuition often have access to additional personalised help, while others depend heavily on the limited time available from their teachers.

Advice to aspiring entrepreneurs

"Focus less on having the perfect idea and more on understanding the right problem. Speak to users early, challenge your assumptions and keep iterating. Use your time at SUTD to experiment, build, connect across disciplines and become comfortable learning as you go."

How ESD prepares me

"ESD equipped me with both the analytical and systems-thinking skills that have been highly relevant in building Korosen. Courses involving financial modelling and data analysis helped me become more comfortable making decisions based on data, evaluating trade-offs, and thinking about the sustainability of a business beyond just the product itself. These skills are especially useful when we analyse user behaviour, evaluate our business model, and plan for the growth of the venture."

Celebrating Achievements Beyond Classroom

Best Research Report 2026 CFA Institute Research Challenge(Singapore) Finals



(From left to right)
Dora Tan Sie Min (CSD), Lee Tze En (ESD),
Saarthak Khanduja (ESD), Jathyanarayanan Balamurugan(ESD)



"On 7 February 2026, my team, Ceteris Paribus, and I were awarded Best Research Report at the 2026 CFA Institute Research Challenge (Singapore) Finals, competing against the top university teams across Singapore. Despite many of us coming from non-business and non-economics backgrounds, we conducted rigorous equity research, financial analysis, and valuation to produce a comprehensive investment report that was recognised for its quality and depth.

This achievement reflects our ability to quickly master complex financial concepts, collaborate effectively under pressure, and communicate investment insights professionally. We are grateful for the guidance of our faculty advisor, Professor Douglas Streeter Rolph, and our industry mentor, Dee Senaratne, whose mentorship played a key role in our success."

- Lee Tze En

Join the 2027 CFA Institute
Research Challenge (Singapore)
Application opens in Sep 2026



Scan or click
on QR code
for details



Alumni Voices

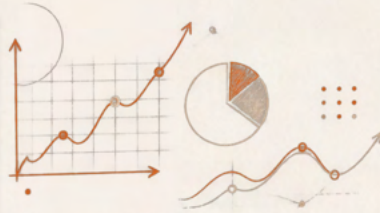


Raynard Chai

Class of 2025,
MSc Finance,
Stockholm School of Economics

"ESD is one of the best places to be in SUTD. The world runs on systems, and no other pillar trains you to break down complex problems, analyse them, and optimise solutions like ESD does. The skills you learn here apply to so many fields, and the ESD toolkit will take you far in your career. Being in the investment industry now, I'm especially grateful for ESD's early focus on client interaction all the way back in Term 4.

Because of that, I'm comfortable engaging with senior management, presenting data-driven insights, and quickly understanding value chains across different industries."



Fiona Ng

Class of 2025,
Aviation Engineer
Surbana Jurong

"Looking back, ESD didn't just equip me with technical tools; the curriculum also changed the way I approach complex problems. I learned how to adapt quickly and pick up new skill sets on the go. Through various industry-level projects, I had the chance to apply classroom concepts directly to real-world challenges. These experiences built my confidence in handling ambiguity and tackling unfamiliar problems.

My advice to freshmores: explore widely, embrace the unfamiliar, and treat every challenge as an opportunity to grow!"



2025 Employment Statistics for ESD Graduates



S\$4,900

Median Gross
Monthly Salary



An estimated **10%** of
ESD graduates move
on to pursue
post-graduate degrees.

*Source: 2025 Graduate Employment Survey, Ministry of Education, Singapore