Reimagining Design with AI

Forging a new concept in design innovation with AI technologies, the Design and Artificial Intelligence (DAI) programme focuses on better design through AI. It aims to nurture a new generation of talents with these specialised skills, focusing on the application of AI-driven design across user interface/user experience, products, systems and built environments.

From designing smarter medical systems for accurate early disease detection to predicting urban growth patterns to optimise city planning, and safer and more intuitive digital banking services. These are just some of the possibilities of how AI-driven design innovation can transform the economy and improve our lives.

Our DAI graduates are both designers and innovators who harness the power of AI to tackle present and future challenges in an AI-driven world, elevating design using AI across products, systems, services and the built environment.

A World-First Curriculum in Design and AI

Over the course of the first three common Freshmore terms, you will have built a solid foundation in Science, Mathematics and Technology (SMT), Humanities, Arts and Social Sciences (HASS) and Design, which will prepare you for your DAI major.

In the DAI programme, you will master how to use AI for enhanced design through application-based courses and design studios. You will engage in AI design innovation studios where you make connection between AI and design thinking methodologies. These studios offer hands-on experiences, collaborating with real clients on company-sponsored projects using real-world data.

AI is a new area. Designing AI into a traditional engineering system is often an afterthought. An AI-capable system should incorporate AI into its design at the onset. It will benefit the industry if AI & DI can be fused seamlessly into all AI product designs.

Dr. Peh Chin Hwee
Vice President, Head of Intelligent Systems (Robotics & Autonomous, Systems), ST Engineering

SUTD’s DAI degree is relevant in building a pipeline of multi-disciplinary data scientists and AI engineers.

Mr Johnson Poh
Executive Director & Head Enterprise AI, United Overseas Bank

Learning Outcomes of DAI Core

INTERDISCIPLINARY EXPERTISE
Combine technical expertise in AI with design innovation skills to apply across a range of disciplines, e.g., engineering, healthcare, media, built environment and more.

IN-DEPTH KNOWLEDGE OF DESIGN THEORIES & PRACTICES
Disrupt economies with your extensive know-how in design theories and practices.

EFFECTIVE AI DEPLOYMENT
Increases effectiveness in AI deployment.

Graduate with a Bachelor of Science in Design and Artificial Intelligence

You will gain diverse exposure that spans across a wide array of industry sectors. In addition to your DAI subjects, you will continue to take courses in HASS that will prepare you to be a new kind of design innovator who embraces the cultural and social context of technology in the modern world.

Every undergraduate will have worked on at least 20 design projects throughout their years of study at SUTD. These experiences culminate in a two-term Capstone project in your graduating year. This allows you to work in teams with students from other majors and apply the skills you have mastered in DAI on either a client-sponsored industry-based project or your own entrepreneurial project to solve a real-world challenge. Upon graduation, you’ll possess an extensive portfolio of industry-inspired projects, well-prepared for your career journey.
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DAI Core Subjects

- AI Applications in Design
- Algorithms
- Applied Deep Learning
- Human Computer Interaction and AI
- Machine Learning

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Disrupt economies with your extensive know-how in design theories and practices.

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Increases effectiveness in AI deployment.
**DAI CURRICULUM**

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<th>JAN-APR</th>
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<td>Core Subject</td>
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**MINOR PROGRAMMES**

Our range of minors offers you more choices and flexibility in pursuing your broader interests.

- Minor in Analytics*
- Minor in Computer Science (CS)
- Minor in Design Innovation, Ventures and Entrepreneurship (DIVE)
- Minor in Design, Technology and Society (DTS)
- Minor in Digital Humanities (DH)
- Minor in Engineering Systems (ES)^
- Minor in Engineering Product (EP)
- Minor in Healthcare Informatics (HI)
- Minor in Sustainability by Design (SD)

*For students enrolled from AY2022 onwards.
*For students enrolled before AY2022.

Students will indicate their choice of minor before the start of Term 4. Information is subject to change. Visit sutd.edu.sg/minors for latest updates.

+++ **DBS Bank Ltd**

It’s been an amazing experience working with the students. They showed professionalism in both technical and project management aspects which are essential skills in today’s design and tech industry. It is always an eye opener to hear fresh perspectives from them and the management is impressed with the quality of ideas. Look forward to more opportunities to work with them.

+++ **AMD**

The students’ independence and resourcefulness in finding innovative solutions were remarkable. They confidently approached problem-solving with a unique and fresh perspective, reflecting their innate creativity and passion for their work.

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*Term 3 Electives:*
- Science and Technology for Healthcare
- Data Driven World
- Designing Energy Systems
- Spatial Design World

- In addition to all subjects in Term 1 being grade-free (Pass/No Record), students can choose up to four more subjects from Terms 2 and 3 to be grade-free.
- Students will declare their choice of major in Term 3.

Information is subject to change. Visit dai.sutd.edu.sg for latest updates.
DAI graduates are prepared for a wide range of AI-driven design careers. Your skills in technology and design thinking prepare you for both the private and public sectors, including banking and finance, UI/UX agencies, high-tech firms and more.

EXAMPLES OF DAI GRADUATES’ JOB TITLES:
- Applied machine learning engineer
- Business intelligence developer
- Data scientist
- Data visualisation specialist
- Design innovator
- Innovation strategist
- Product/System/Service designer
- User experience (UX) designer
- User interface (UI) designer

We are very happy with the idea that the team has come up with and with what they have learned and achieved in such a short period of time.

We are especially pleased with the team’s presentation. I would like to commend their efforts and am greatly impressed to see the team’s prototypes and their ability to promptly come up with an improved design following our trial.

Meticulously designed and developed in Fusion 360 – a fusion of both Computer-Aided Design and Generative Design – this electric race car design is the culmination of extensive research, thorough scrutiny from every conceivable angle, and numerous iterations. Its final form is fine-tuned and optimised, resulting in a sleek, powerful, and seamless appearance.

Statistical data can be used to predict an outcome – a method known as predictive modeling. In urban planning, for example, demand for public trains can be forecast in order to create more efficient public transport deployment plans.

Creating a data analytics dashboard with the use of Machine Learning models that forecast passenger loads, along with a food calculator that forecasts the amount required and estimates total cost.

Our range of minors offers you more choices and flexibility in pursuing your innate creativity and passion for their work. Unique and fresh perspectives, reflecting their experiences and expertise, are essential skills in today’s design and tech industry. It is always an eye opener to hear fresh perspectives from them and the management is impressed with the quality of ideas. Look forward to more opportunities to work with them!
PREPARE TO TAKE ON THE WORLD

2 SPECIALISATIONS

HAVE THE FLEXIBILITY TO CUSTOMISE YOUR CURRICULUM WITH ONE OR MORE SPECIALISATIONS*. YOUR SPECIALISATION WILL BE REFLECTED ON YOUR TRANSCRIPT SO THAT EMPLOYERS RECOGNISE YOUR ADDITIONAL EXPERTISE. FIND OUT MORE AT DAI.SUTD.EDU.SG/SPECIALISATIONS

*Specialisations offered in a given year are subject to change. Choosing a specialisation is optional.

ENTERPRISE DESIGN

Gain skills and knowledge on design, manufacturing, sustainable engineering and business subjects which are required to make an enterprise successful in our fast-evolving world.

Ideal for those who wish to lead transformational innovations within organisations.

HEALTHCARE DESIGN

Discover how to design healthcare products and services with artificial intelligence and be equipped with fundamental knowledge in medical technologies to develop the next generation of healthcare solutions.
Trailblazing a Better World by Design.

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