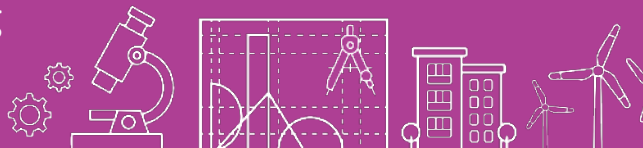


❖ Second Major in Applied AI (Design and Engineering)

❖ Minor in Applied AI (Design and Engineering)

Prof. Mehul Motani
motani@nus.edu.sg

Second Major / Minor in Applied AI (Design and Engineering)



July2026-1

Why AI Matters

Industry Transformation

National Priority

Singapore plans to invest more than S\$1 billion over five years to boost AI activities and market competitiveness.

AI is rapidly transforming design and engineering across autonomous systems, robotics, materials science, and smart buildings.

Career Opportunities

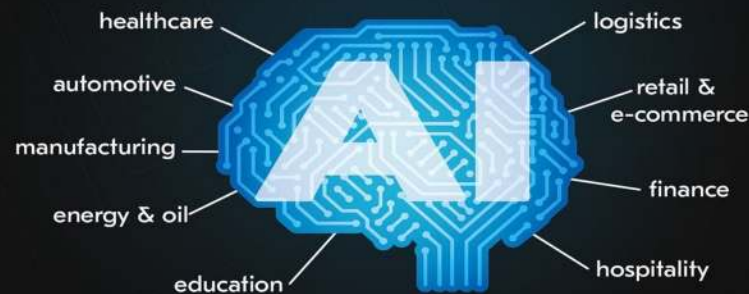
Gain in-demand skills that are highly sought after by industries across the board.

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AI Across Industries



<https://acropolium.com/blog/ai-use-cases-in-major-industries-elevate-your-business-with-disruptive-technology/>

Second Major / Minor in Applied AI (Design and Engineering)



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Benefits of the Second Major / Minor

Enhance Problem-Solving

Cultivate a data-driven mindset and leverage AI to optimize engineering processes.

Interdisciplinary Research

Collaborate with researchers across campus to advance research and development.

Develop Innovative Solutions

Apply AI to address complex engineering challenges and create novel products and services.

Second Major / Minor in Applied AI (Design and Engineering)



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Benefits of the Second Major / Minor

Tailored for CDE students
Offers a targeted, practical, and interdisciplinary program designed for College of Design and Engineering students.

Industry-focused
Provides hands-on learning experiences that are immediately applicable to students' fields of study.

Contextual Learning
Syllabus and content
meticulously curated to
highlight the relevance of AI to
each student's field of study.

Practical Applications
Helps students grasp the practical applications of AI within their discipline, enhancing employability.

Second Major / Minor in Applied AI (Design and Engineering)



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Learning Outcomes

Fundamental AI Concepts

Grasp machine learning, natural language processing, and computer vision fundamentals.

Problem Identification

Identify problems addressable with AI and develop appropriate domain-specific solutions.

AI Modeling
Model real-world problems using optimization, classification, regression, and clustering.

Ethical AI Considerations

Understand ethical implications and develop responsible AI systems.

Second Major / Minor in Applied AI (Design and Engineering)



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Industry Landscape



Second Major / Minor in Applied AI (Design and Engineering)



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Programme Structure for Second Major

Core courses (24 units)

- EE2211 Intro to Machine Learning / CDE2212 AI for Design
- EE2213 Intro to AI
- EE3703 Machine Learning with Applications
- EE4312 Artificial Neural Networks
- EE4706 Embodied AI
- EE4707 Robust and Trustworthy Artificial Intelligence

Electives (16 units)

Choose any four courses from a wide range of options across engineering disciplines, including computer vision, robotics, data science, and more.

Note: 40 Units minimum to be awarded the Second Major.

Second Major / Minor in Applied AI (Design and Engineering)



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Programme Structure for Minor

Core courses (12 units)

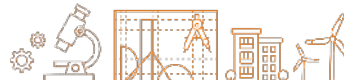
- EE2211 Intro to Machine Learning
OR CDE2212 AI for Design
- EE2213 Intro to AI
- EE3703 Machine Learning with Applications

Electives (8 units)

Choose any two courses from a wide range of options across engineering disciplines, including computer vision, robotics, data science, and more.

Note: 20 Units minimum to be awarded the Minor.

Second Major / Minor in Applied AI (Design and Engineering)



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How do you choose?

- **Program Goal:** Offers two flexible pathways to explore your passion for AI and apply its tools to your primary discipline.
- **Second Major (40 Units):**
 - **Focus:** A deep dive into advanced computational topics like neural networks, embodied AI, and robust systems design.
 - **Career Path:** Prepares graduates for highly specialized, AI-centric roles.
- **Minor (20 Units):**
 - **Focus:** A streamlined, practical foundation in AI.
 - **Career Path:** Built to seamlessly complement your primary major.

Shared Benefit: Both pathways equip you with powerful, industry-ready problem-solving capabilities tailored to your specific career goals.

Second Major / Minor in Applied AI (Design and Engineering)



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Eligibility and Application

Who can apply

- Students taking a Primary Major within the College of Design and Engineering
- Apply at point of admission or during Academic Plan Declaration Exercise (APAD)

Who cannot apply

- Students not reading a CDE primary major
- Students taking a minor in Artificial Intelligence offered by SoC

In-flight students (in Year 1 or Year 2) can declare the minor themselves in APAD before CourseReg begins – by their 5th Academic Plan Declaration exercise.

Second Major / Minor in Applied AI (Design and Engineering)



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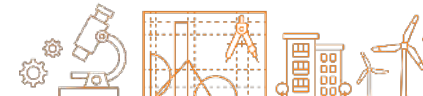


cde.nus.edu.sg/ece/second-major-or-minor-in-ai/

 <https://cde.nus.edu.sg/ece/second-major-or-minor-in-ai/>

 askECE@nus.edu.sg

Second Major / Minor in Applied AI (Design and Engineering)



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