9am - 12:30pm, Wednesday 22 November

AI-Enhanced Education: Navigating the future of learning

Hosted by UNSW Science

On campus: Webster Theatre A

Online: Join MS Teams session

Add event to my calendar

Time	Topic/Session	Presentation title	Abstract
9:00 – 9:15	Registration	**Tea, coffee, networking**	
9:15 – 9:20	Opening	**Acknowledgement of Country and Welcome** **Presenter:** Dr Rebecca LeBard	
9:20 – 9:30	Keynote: Australian Award for University Teaching recipient 2022	**Selecting the right digital tools for student (and lecturer) success** **Presenter:** A/Prof. Michael Kasumovic	Abstract
9:30 – 9:35		**Questions**	
9:35 – 9:45	AI in the classroom	**The Day of AI Australia 2023 | Educating 22,000 Primary School Students about AI** **Presenter:** Dr Jake Renzella and Roly Clifton-Bligh	Abstract
9:45 – 9:55		**Empowering Students Learning Through Responsible Use of AI in Learning and Assessments** **Presenter:** Dr Andrew Dymock	Abstract
9:55 – 10:05		**Bot vs Bot: Gamifying the AI education** **Presenter:** Dr Armin Chitizadeh	Abstract
10:05 – 10:10		**Questions**	
10:10 – 10:20	AI changes to student learning	**Time to learn to unlearn** **Presenters:** A/Prof. Lynn Gribble and A/Prof. Janis Wardrop	Abstract
10:20 – 10:30		**"ChattieG writes better than me": Using chatGPT to develop critical thinking, feedback literacy and communication skills in undergraduate psychology** **Presenters:** A/Prof. Jenny Richmond and Kate Nicholls	Abstract
10:30 – 10:40		**Assessing the impact of ChatGPT on student learning and academic integrity** **Presenters:** Dr Anam Malik and A/Prof. Jayashri Ravishankar	Abstract
10:40 – 10:45		**Questions**	
10:45 – 11:00	**Break**		
11:00 – 11:15	Student panel	**Demystifying AI in Education: A Student Perspective** **Presenters:** Biance Greig with Rochelle Barnard, Gurveer Singh and Zhenzhuo (Star) Xian	Abstract
11:15 – 11:25	AI as a tool for educators	**An AI Odyssey: Crafting Courses at the Speed of Trimesters** **Presenter:** Dr Kelsey Burton	Abstract
11:25 – 11:35		**Ghost in the Classroom** **Presenter:** Dr May Lim	Abstract
11:35 – 11:45		**Generating Learning Materials through AI - A Case Study in Interpreting Studies** **Presenter:** Xiang Cheng	Abstract
11:45 – 11:50		**Questions**	
11:50 – 12:00	AI for student support	**Using data insights to enhance student success** **Presenters:** Prof. Simon McIntyre and Walter Tejada	Abstract
12:00 – 12:10		**Bloom - AI-Powered Tutor** **Presenters:** Gary Liang and Aleksandra (Sasha) Balyanova	Abstract
12:10 – 12:20		**Use of Artificial Intelligence to Provide Tailored Support to Students** **Presenters:** Dr Inma Tomeo-Reyes and Eric Pullukaren	Abstract
12:20 – 12:25		**Questions**	
12:25 – 12:30	Closing	**Closing remarks** **Presenter:** Dr Rebecca LeBard	

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Selecting the right digital tools for student (and lecturer) success

Presenter: A/Prof. Michael Kasumovic

With so many digital tools available, selecting something that will improve student outcomes and satisfaction within your course can be overwhelming. In this talk, I will discuss various digital tools I have used with my students over the years, what has worked, and what hasn't - failure is as important to talk about as success. I'll outline what I think about when I try to add technology to my courses and why I feel it's important to understand how students use technology in their daily lives for learning and fun before adding digital tools to your course.

Associate Professor Michael Kasumovic is an evolutionary biologist that explores the role the social environment has on how individuals develop and behave. These interests have resulted in him working on a number of different species throughout his career from birds, to spiders, to crickets, and now humans. Michael now uses video games to explore human choices and preferences. Michael now uses what he's learned to create video games through his company Arludo and has received a National Teaching Citation for these efforts.

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The Day of AI Australia 2023 | Educating 22,000 Primary School Students about AI

Presenters: Dr Jake Renzella and Roly Clifton-Bligh (TDM Foundation)

The Day of AI Australia is a global education movement designed to help Australian children better understand the role of artificial intelligence in their current and future lives. In the 2023 Day of AI, CSE academics Professor Toby Walsh and Dr Jake Renzella partnered with the TDM Foundation to produce materials to educate primary students on what's currently possible with AI. Materials included hands-on activities of Australian adaptations of artificial intelligence-related ethics problems and introduced students to Deep Fake Toby! Professor Toby Walsh's Dubious Double, designed to educate students about fake news!

The Day of AI was co-developed by the Massachusetts Institute of Technology (MIT), i2Learning, CS in Schools and UNSW's School of Computer Science and Engineering to introduce students to the knowledge and skills they need to thrive in a world that AI will power.

Last year, over 22,000 Australian students registered as part of a global movement. The Day of AI Australia was featured in the mainstream media, such as SBS News and Channel 7 News.

Dr Jake Renzella is a Lecturer and Co-Head of the Computing and Education research group in the School of Computer Science Engineering at UNSW. Jake's research is at the intersection of novel software and artificial intelligence-based systems applications and world-class computing education. Jake's work has been published in premier conferences and journals such as the International Conference on Software Engineering. More importantly, it is embedded in open-source education projects such as SplashKit, and notably, Formatif, used at several Australian and New Zealand universities with over 230,000 students.

Jake also works in higher education's academic integrity, focusing on student-friendly approaches to retaining integrity. Jake is an Associate Fellow of the Higher Education Academy, and an Early Career Academic member of the Australasian Association for Engineering Education.

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Empowering Students Learning Through Responsible Use of AI in Learning and Assessments

Presenter: Dr Andrew Dymock

The purpose of this presentation is to provide unique insights into the innovative way that Artificial Intelligence (AI) has been adopted and used in tutorials to assist students in a large intradisciplinary subject in the first year of a Bachelor of Commerce. This tutorial activity highlights the importance of increasing students' awareness of new technology trends and provides a practical example of bringing into the classroom new technology that will become part of the essential work in their professional life. The tutorial and assessment activities have been designed this term in response to the widespread emerging trend of ChatGPT and are aimed to assist students in understanding how to use responsibly AI to enhance the quality of their work, both within the university context and within a workplace context.

This tutorial activity was highly innovative, useful, and provided an engaging approach for engagement with new technology during tutorials and our teaching team plans to expand on this initial activity in upcoming terms within the subject. Students undertook this tutorial activity to better understand how AI can be used within the context of assessment to enhance the quality of their response and improve the structure of their assessment. They also learned the importance of not using AI blindly as its lack of detail, context and accuracy can negatively impact on the overall quality of their assessment. They also learned the importance of having gained an outstanding understanding of the subject area through the industrious application of learning and research to the topic they are addressing.

My findings from being part of the team who implemented these new tutorial and assessment activities can be shared more broadly with the academic community to provide an example of harnessing the opportunity to expose students to the responsible usage of AI. My aim is through this presentation to share my experience of designing, developing, and implementing this approach on a at a large scale of an introductory undergraduate subject with thirty-five tutorial classes and across a large teaching team of intradisciplinary background staff. Also, I aim in this presentation to share my own practical experience on implementing at an individual tutorial level context including my insights about how the students in my tutorial classes approached this issue and the benefits they gained from completing this activity.

Dr Andrew Dymock is a Nexus Fellow and Senior Lecturer with the School of Accounting, Auditing and Taxation. He has previously worked with the Bachelor of Commerce Integrated First Year Program at UNSW, been a Casual Lecturer at UTS and is an Accredited Secondary Teacher. Andrew also has a background in both business and education, having practiced in Audit and Business Services and taught at a number of leading schools. .

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Bot vs Bot: Gamifying the AI education

Presenter: Dr Armin Chitizadeh

A common feedback we hear from students is that AI courses can be too math-heavy and dry. To address this, we have introduced a unique assignment: a game where students create their own bots to compete. Unlike typical games, it is bot vs. bot, using 80s classics like Tron to keep it manageable.

Students not only build their bots but also write reports, assessed by a tutor. This personal feedback helps struggling students, something AI can't provide yet. To automate their bot marking, we designed a series of bots with different levels of difficulties. Students will get a point for each bot that their bot defeats.

To add excitement, we host an end-of-term competition with industry-sponsored prizes for the best student. This fosters engagement and connects our students with the industry. Our aim is to make learning AI more enjoyable, practical, and rewarding.

Dr Armin Chitizadeh is an Education-Focused Associate Lecturer at the School of Computer Science and Engineering. He holds a PhD in General Game Playing, a subfield of Artificial Intelligence. In 2023, he served as a lecturer for the UNSW Artificial Intelligence course. Additionally, he co-founded CoderOne, a startup dedicated to gamifying multi-agent environment challenges, aimed at educating university students in software engineering and artificial intelligence.

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Time to learn to unlearn

Presenters: A/Prof. Lynn Gribble and A/Prof. Janis Wardrop

AI enhanced education means that knowledge is not only freely available but can pull together information from many more sources than an individual could ever hope to consult. Generative AI provides a ready-made tutor and writing assistant on call and as needed (Yu & Guo, 2023). Hence our role as educators needs to change.

To navigate the future of learning, teachers must double down and engage students in critical thinking to create the transformative learning experiences needed to set up students for future success. Rather than focusing on learning sessions alone we create unlearning (McLeod et al 2020) spaces by supporting students to discard previously held information or knowledge.

These experiences ask students to critique generative AI and its output to consider what needs to be unlearnt. One of the challenges that have been faced, to date, is a student over confidence in what AI produces. Shifting students to move from this anchoring bias is a process of unlearning. By considering what needs to be unlearnt, critical thinking can commence. We propose the future of AI in education is about unlearning over learning.

Associate Professor Lynn Gribble is an Education Focused academic, and an awarded educator recognised at a university, national and international levels. Lynn has used her keen interest in transformative learning through engagement, belonging and personalization of each student's learning experience. She has extensively considered how to develop authentic assessment and has worked on university-wide feedback projects to enhance the student experience. Known for her continual innovation, Lynn uses technology to connect with her students and personalize their experience.

Associate Professor Janis Wardrop is currently the Director of Education at the Centre for Social Impact. An academic leader and educational champion of innovation, she is also a recipient of the Vice Chancellor's Award for Teaching Excellence and a leading educator in the School of Management and Governance, she specialises in developing student's learning capabilities to meet the challenges of the 21st century workplace, through innovative curriculum and course design. Her passion is to support others in their development.

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"ChattieG writes better than me": Using chatGPT to develop critical thinking, feedback literacy and communication skills in undergraduate psychology

Presenters: A/Prof. Jenny Richmond and Kate Nicholls

Students used ChatGPT to generate a draft media release, showcasing a piece of recently published psychological science. They were asked to critique the output, highlighting strengths and weaknesses and making a plan for how they would revise the text to make it better meet the marking criteria. Students then revised the work, submitting for tutor feedback, before turning their media release into a video.

We analysed students' engagement with the feedback/revision process along with their critique and reflection responses to assess the extent to which the exercise promoted critical thinking, feedback literacy and communication skills. Some students were caught out by the perceptual fluency of the ChatGPT output, highlighting the need to explicitly teach students how to work with AI generated output. Students engaged with processes designed to promote feedback literacy when graded, but few took up to the opportunity to engage in optional feedback activities. The process highlighted the challenge of asking students to revise work that they perceive to be superior to what they could produce.

We will discuss the importance of embedding ethics and academic integrity into AI-enhanced assessment processes.

Associate Professor Jenny Richmond is committed to the development of skills that prepare her students to apply their psychological knowledge to solve problems in the real world. Always an early-adopter, her teaching practice is innovative, inclusive, and influential. Her pedagogical approach is evidence-based and her assessment design prioritises the development of critical thinking, communication skills and feedback literacy.

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Assessing the impact of ChatGPT on student learning and academic integrity

Presenters: Dr Ananm Malik and A/Prof. Jayashri Ravishankar

Many students have embraced AI as a part of learning. While AI holds promise for enhancing learning outcomes, concerns have emerged regarding the potential overreliance on AI technologies, posing a threat to academic integrity. This presentation will discuss a novel approach in an Electrical Engineering L5 course that was used in an assignment. The re-designed assignment required students to analyse electrical incidents and devise solutions across four main categories: Standards, Engineering, Administrative, and Personal Protective Equipment (PPE). The primary objective was to harness ChatGPT's extensive knowledge resources and compare its generated solutions with the students' own analytical efforts. Assignment outcome showed that ChatGPT provided solutions were comprehensive in some categories, while in other, solutions were predominantly generic and lacked specificity tailored to the given incidents. This required students to conduct further research to identify solutions applicable to specific incidents. Around 35% students showed heavy reliance on ChatGPT generated solutions and provided minimum analysis of their own. Often this reliance led to a shortfall in critically evaluating the suitability of the solutions. However, there was a small subset of students (6.5%) who displayed commendable critical thinking and engaged in thorough analysis.

Dr Anam Malik is an Associate Lecturer at the School of Electrical Engineering & Telecommunications, UNSW. Her professional pursuits encompass both teaching and research, with a primary emphasis on power system analysis, renewable energy and smart grid technologies. In her capacity as an Early career academic, she is dedicated to the innovation and evolution of teaching methodologies under the mentorship of seasoned academics. At the centre of her educational aspirations is her profound desire to impart enduring knowledge.

Associate Professor Jayashri Ravishankar is a Fellow of UNSW Scientia Education Academy and an Education Focussed academic in the School of Electrical Engineering & Telecommunications. Her teaching and research interests include power system studies, renewable energy integration and Engineering Education. She leads best practice advanced teaching in electrical engineering through imaginative initiatives and industry partnerships, including blended industry lectures, teamwork and flipped mode strategies. Esteem indicators include Senior Fellowship of the Higher Education Academy awarded by Advance HE (UK), UNSW Teaching Excellence Awards and the Australian Awards for University Teaching Citation.

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Demystifying AI in Education: A Student Perspective

Presenters: Bianca Grieg (Science Educational partnerships manager), Rochelle Barnard, Gurveer Singh and Zhenzhuo (Star) Xian

In an era where technology is rapidly shaping the educational landscape, understanding the role of Artificial Intelligence (AI) is pivotal. This panel discussion, led by Bianca Greig, will delve into how students harness AI tools and their perspectives on AI integration within academia. Our aim is to bridge the gap between educators and students, demystify AI, and explore its potential as a workplace skill.

Our students will be answering questions about their use of AI, their views on AI guidelines at UNSW, how they see AI being used in industry when they graduate, their thoughts on the AI literacy levels of UNSW academics and AI in the classroom and how much it should be integrated into the learning experience.

Star Xian earned a Bachelor Degree of Environmental Management, specializing in Biology, from the University of New South Wales. She is passionate about bridging the gap among science, policy, and the general public to enhance evidence-based solutions to climate change. She led a big data project conducting bibliometric analysis on two decades of climate change research in environmental management most tempting to policymaking (2000-2023), providing insights to bridge the science-policy gap.

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An AI Odyssey: Crafting Courses at the Speed of Trimesters

Presenter: Dr Kelsey Burton

Get ready for the AI Odyssey, an educational adventure of a lifetime, where innovation knows no bounds! This isn't just a presentation; it's a voyage!

Picture yourself navigating the enigmatic waters of academia, venturing into uncharted territory of course creation beyond your area expertise. With trepidation, you embark on a hero’s journey. As the upcoming term's commencement approaches rapidly, you find yourself caught in a whirlwind of vanishing time, fervently managing never-ending t-do lists, and embracing the swells of emails. Racing against deadlines, you feel like you're spiraling into chaos. In the midst of this storm, OpenAI throws you a lifeline – ChatGPT, the true hero of our AI Odyssey.

This marked Dr. Kelsey Burton's maiden year as an early-career academic. Yet, with her co-captain, Rushi Vyas, an award-winning startup Founder, they have devised AI prompts to assist you in setting your sails and plunging headfirst into the seas of AI possibilities. It's time to embrace the future, redefine the rules of course development, and embark on an exhilarating, time-saving voyage you don’t want to miss.

Dr Kelsey Burton, a passionate educator and coach, is dedicated to creating an authentic and practical learning experience, spanning her courses in business innovation, negotiations, and leadership. Her PhD. research focuses on the emergence of narcissistic/psychopathic leadership and is currently collaborating with Juliet Burke to evolve her inclusive leadership research into a teaching model aimed at cultivating a naturally inclusive culture.

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Ghost in the classroom

Presenter: A/Prof. May Lim

In this presentation we will present use cases where AI and digital technologies were used to enable learning activities that used to be difficult to do at scale. This include allowing students to engage with 850+ food industry representatives, wade through 1500+ journal articles, and obtain instant feedback on hours of meetings, class presentations, and written reports. We will also include a simple guide for contextualising AI use for the student. We will share what we learn - the good, the bad and the ugly - and reflect on what the next step would be when it comes to using AI in our classroom.

Associate Professor May Lim is a Senior Lecturer at the School of Chemical Engineering. Her teaching interest are in methods that enable engineering students to gain mastery and transcend their discipline through project-based learning and industry relevant learning.

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Generating Learning Materials through AI - A Case Study in Interpreting Studies

Presenter: Xiang Cheng

Creating educational content like dialogues and speeches for students specialising in interpreting (oral translation) can be both challenging and time-consuming. This presentation explores and illustrates a case study on leveraging generative AI tools—such as GPT and AI voiceover technologies—to efficiently craft appropriate materials.

The study delves into aspects like contextual prompting, logical structuring of prompts, fine-tuning complexity, and AI voiceovers. Offering insights into the pros and cons of using generative AI, the case study also discusses strategies for enhancing the learning experience through the aid of AI technology.

Xiang (Sean) Cheng has served as an Associate Lecturer in the Translation and Interpreting program since 2010. Sean boasts extensive experience in diverse fields such as commercial translations, project management, as well as legal and medical interpreting.

A pioneering force behind the integration of technology into UNSW's translation and interpreting curriculum, Sean possesses a comprehensive understanding of industry best practices, and maintains a keen insight into the evolving landscape of technology and its transformative impact on the industry.

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Using data insights to enhance student success

Presenters: Prof. Simon McIntyre and Walter Tejada

The Data Insights for Student Learning and Success project aims to enhance the student and staff experience by reduce failure rates, improving retention, and increasing student and staff awareness and use of UNSW's valuable support services when they are needed most. This will be achieved by using Machine Learning (ML) and Artificial Intelligence (AI) informed by existing data from learning management systems and other relevant sources.

The system is designed to provide visualisation of, and insights from data, together with machine learning and AI based analysis that will provide clear prompts for action. Those actions around student pastoral care are already required of staff but are difficult to affect. Automation out of those prompts will both save staff time and increase the effectiveness of student support. This effectively eliminates or greatly reduces the current load on students and some staff when finding different support options, assessing their relevance, and connecting with them. This also reduces time and stress for academic staff who may have never been inducted or trained on the range of support available.

Professor Simon McIntyre is the Director, Educational Innovation at UNSW Sydney, a Principal Fellow of the Higher Education Academy (PFHEA), and a member of the UNSW Scientia Education Academy. He is a multi-award winning educator, passionate about improving the effectiveness, quality and relevance of the student learning experience, and about pedagogically driven use of technology to innovate learning and teaching practices. He takes a design led and data informed approach to the personalisation of learning, appropriate integration and evaluation of digital technologies, artificial intelligence, and immersive experiences into a balanced curriculum. Simon is committed to continuing to innovate, uncomplicate, improve, and reimagine the UNSW student experience.

Walter Tejada is the Project Manager of Special Project team at the UNSW PVCESE Innovation. He manages initiatives at UNSW aiming to enhance learning, teaching and support experiences of students and staff via UX/UI and data analytics developments aligned with educational frameworks and integrated with design and system thinking.

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Bloom – an AI-Powered Tutor

Presenters: Gary Liang and Aleksandra (Sasha) Balyanova

Bloom AI is an AI-powered tutor and teaching assistant. It is trained on course-specific content to enable more accurate and tailored information. Bloom AI is trained to teach, rather than just give answers.

This presentation will present early findings of a pilot with ~200 students in a second-year undergraduate economics course (ECON2112 Game Theory and Business Strategy). We show early signs of student engagement

Gary Liang is the Founder of Bloom AI and an academic tutor at the School of Economics and School of Mathematics. He previously was a strategy consultant and ran a high school tuition centre.

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Use of Artificial Intelligence to Provide Tailored Support to Students

Presenters: Dr Inma Tomeo-Reyes and Eric Pullukaran

Education is an area that has historically been marked by innovation. Rapid advancements in artificial intelligence (AI) are poised to make a transformative impact. As AI has matured, it has the potential to revolutionise how students interact within and beyond the classroom environment. This is especially significant in the context of large first-year courses in which real-time, personalised assistance for each student is a challenge due to the sheer volume of students. This lack of real-time engagement, as evidenced by Lee et al. (2011), can directly impact students' satisfaction with a course, and, ultimately, retention.

Since 2022, an undergraduate thesis project (now a research project funded by EFFECT, the Education Focussed Career Support program from the Faculty of Engineering) has leveraged the latest developments in machine learning and AI to create a powerful AI-driven conversational assistant (or AI-chatbot) that provides customised course-specific and student-specific responses in real-time to fill the need for personalised support in the education sector (Gupta and Chen, 2022).

In its first stage, the chatbot acts as an effective intent recognizer, capable of accurately identifying the underlying purpose or intent of student questions. Upon understanding a student's intent, the chatbot fetches relevant resources and data based on the recognised intent and uses OpenAI’s text completion API and GPT (OpenAI, n.d.) to generate a comprehensive response. Far from simply mirroring information or performing simplistic retrievals, the chatbot creates human-like responses, significantly enhancing the overall student interaction.

References

Lee, S. J., Srinivasan, S., Trail, T., Lewis, D., & Lopez, S. (2011). Examining the relationship among student perception of support, course satisfaction, and learning outcomes in online learning. The Internet and Higher Education, 14(3).

Gupta, S. and Chen, Y. (2022). Supporting Inclusive Learning Using Chatbots? A Chatbot-Led Interview Study. Journal of Information Systems Education, 33(1), 98–108.

OpenAI (n.d.) [online]. Available at: https://platform.openai.com/docs/guides/gpt [Accessed 25 Oct. 2023].

Dr Inma Tomeo-Reyes is very interested in applying engineering education research to the courses she designs and runs, and consistently implements strategies to improve student engagement, collaboration, and active learning. She usually delivers very large first-year courses, so she has developed a passion for teaching first year students and effectively teaching at scale. Esteem indicators include SFHEA (2020), UNSW Student's Choice Teaching Award (2019) and UNSW Award for Outstanding Contributions to Student Learning (2022).

Eric Pullukaran is a student and tutor in Electrical Engineering and Computer Science, recognised on the Dean's Honors List from 2019 to 2022. Passionate about improving education, his undergraduate thesis focused on the development of an AI-powered chatbot to provide real-time support to students, a successful project that was later funded by UNSW Engineering. Eric’s commitment to enhancing educational tools through technology is also exemplified by his development of web applications, such as marking tools.