



Computing and IT Research and Education Conference

7–9 October

Ara Institute of Canterbury, Christchurch

AI-Embedded Futures: Transforming Learning, Innovation, and Industry

Ara Institute of Canterbury warmly welcomes you to the 2026 Computing and Information Technology Research and Education New Zealand (CITRENZ) conference.

This annual conference brings together educators, researchers, and industry professionals to explore the evolving role of technology in teaching, learning, and industry practice.

With the rapid integration of artificial intelligence (AI) across education and professional environments, the conference focuses on how AI-enabled systems are transforming learning, innovation, and workforce development. It provides a platform to share research, exchange ideas, and engage with emerging trends shaping the future of computing and education.

Under the theme “*AI-Embedded Futures: Transforming Learning, Innovation, and Industry*,” the conference welcomes contributions across all computing disciplines. Participants can engage through keynote sessions, research presentations, workshops, panels, and networking opportunities with both academic and industry partners.

Conference Programme

DAY ONE: Wednesday, 7 Oct

Time	Details	Location
9:00 am	Mihi whakatau – Stanley Tawa	K213a&b
9.30 am	Welcome by MC – Bernard Otinpong (Senior Academic Staff Member - Ara Institute of Canterbury)	K213a&b
9.40 am	Opening Speech – Peter Sauer (Faculty Dean of Applied Technology)	K213a&b
9.50 am – 10.30 am	MORNING TEA BREAK	Level 2 hallway, Kahukura
10.30 am – 12.00 pm	Session 1, Stream A Chair: David Weir Session Info: <i>Assessing Learning in the Age of AI: A Case Study of Iterative Portfolio Development in Software Engineering Education</i> - Dipendra Ghimire <i>Securing Drone Navigation Against GPS Spoofing: Adaptive Residual-Based Detection in an EKF-Fused Stereo Visual-Inertial Pipeline</i> - Amr Adel <i>Programming Education and Industry Alignment in New Zealand: Insights from an Industry Survey</i> - Matt Hamilton	K208
10.30 am – 12.00 pm	Session 1, Stream B Chair: Emre Ertuk Session Info: <i>Case study to integrate effectively GenAI system prompts into Web App Development Course</i> - Daniel Dang <i>Navigating the Cyborg Waka: Flexible Assessment from Student Agency to Human-AI Symbiosis</i> - David McCurdy	K209
12.00 pm – 1.30 pm	LUNCH	K213a&b
1.30pm – 3.00 pm	Session 2, Stream A Chair: Bernard Otinpong Session Info: <i>A Privacy-Preserving and Culturally Governed Framework for AI-Mediated Mentoring of Indigenous Youth</i> - Sana Alyaseri <i>Stable but Unsustainable: A Nash Equilibrium in Computing Workload Allocation</i> - Todd Cochrane <i>How Early Can First-Attempt Examination Failure Be Predicted?</i> - Amardeep Singh	K208

1.30pm – 3.00 pm	Session 2, Stream B Chair: Amit Sarkar Session Info: <i>Evaluating an Industry Project Showcase Website for Enhancing Industry Engagement in IT Education</i> - Hamid Mahroeian <i>Behavioural Learning Analytics for Early Prediction of At-Risk Students: A Temporal and Explainable Machine Learning Approach</i> - Harshvardhan Tiwari <i>PROMPT-DA: A Reproducible Framework for Evaluating LLM-Assisted Data Analysis</i> - Anuradha Madurapperumage	K209
3.00pm – 3.30 pm	AFTERNOON TEA	Level 2 hallway, Kahukura
3.30 pm – 4.30 pm	Session 3 - Panel Moderator: Mehdi Asgarkhani Session Info: <i>From Commercial Agents to Local Infrastructure: Integrating AI Workflows in Software & Data Engineering Education.</i> Tim Aitchison, Tony Zhao, Darbid Hatherley	K213a&b
4.30 pm	DAY ONE CLOSES	

DAY TWO: Thursday, 8 Oct

Time	Details	Location
9.00 am	Session 1 - Panel Moderator: Mehdi Asgarkhani Session Info: <i>Tim Croft</i> and <i>Lynne Stokes</i> from The Electrotechnology, Information Technology, and Creative Industry Skills Board (the organisation that replaced the Toi Mai Workforce Development Council) will present an overview of the industry-led secondary school subject, Applied Intelligent Systems, which is currently being developed. The presentation will include early high-level thinking and direction and an update of early design work and industry engagement.	K213a&b
10.00 am – 10.30 am	MORNING TEA BREAK	Level 2 hallway, Kahukura
10.30 am – 12.00 pm	Session 2, Stream A Chair: Dipendra Ghimire Session Info: <i>What Do We Do About ChatGPT Assessment and GenAI in Polytechnic Networking Courses</i> - Abdul Rehman <i>Towards a Governance-Oriented Digital Twin for Assessment Moderation Using Multi-Agent Systems</i> - Johan Ongchangco <i>AI@Ara: Building capability for both kaiako and ākonga in tertiary education</i> - Selena Chan	K208

10.30 am – 12.00 pm	Session 2, Stream B Chair: Phillip Roxborough Session Info: <i>Safeguarding Systems, Upholding Trust: The Auditor’s Role in Cyber Defence</i> - Zarrar Javaid , Rizwan Ahmad <i>Transformation through the Vā: Relational Learning Architecture—Te Ao Māori as the Source</i> - David McCurdy <i>Organic Food Certification and Verification: A Comparative Case Study</i> - Eltahir Kabbar	K209
12.00 pm – 1.30 pm	LUNCH	K213a&b
1.30pm – 3.00 pm	Session 3, Stream A Chair: Blaine Rakena Session Info: <i>The Impact of an Online Learning Environment on Theory Learning in Automotive Engineering Education</i> - Evgenii Serafin <i>Designing Student Assessments That Are Artificial Intelligence Resistant: Strategies for Maintaining Academic Integrity in the Age of Generative AI</i> - Rizwan Ahmad <i>Building Learning Communities through Noho Marae: Operationalising Whakawhānaungatanga in Information Technology Programmes within Vocational Education and Training</i> - Hamiora Te Momo	K208
1.30pm – 3.00 pm	Session 3, Stream B Chair: Alaa Al Janabi Session Info: <i>Trust in AI Accuracy and AI-Assisted Learning: Implications for Verification Literacy in Programming Education</i> - Ahmad Wedyan <i>From Browser-Based Labs to Assessment Evidence: An Environment-Flexible Approach to Ethical Hacking and Pen Testing</i> - Hansi Gunasinghe	K209
3.00pm – 3.30 pm	AFTERNOON TEA	Level 2 hallway, Kahukura
3.30 pm – 4.30 pm	Session 4 Facilitator: Amit Sarkar Session Info: <i>AI and Automation in the workplace, hope vs actual impact: Balancing Innovation, Ethics, and Human Expertise</i> Grant Bennett – Ara Institute of Canterbury Stuart Dillon-Roberts - Hail Stuart Ralston - Trimble Steve Knutson – Stratos Technology Partners	K213a&b
4.30 pm	DAY TWO CLOSES	
6.00 pm	Conference Dinner Theme: A New Beginning <i>Bar open at 6pm, dinner starts 6.30-6.45pm</i>	Visions Restaurant on Campus (see map on last page)

DAY THREE: Friday, 9 Oct

Time	Details	Location
9.00 am	Session 1 Chair: Mehdi Asgarkhani Session Info: <i>Leading Digital in Modern Tertiary Education: ICT as Enabler, Not Service.</i> Dean Patfield – Head of Digital – Ara Institute of Canterbury	K213a&b
10.00 am – 10.30 am	MORNING TEA BREAK	Level 2 hallway, Kahukura
10.30 am – 12.00 pm	Session 2, Stream A Chair: Hami Te Momo Session Info: <i>Zero Trust Architecture (ZTA) Adoption Framework For Enhancing Cybersecurity in Small and Medium-Sized Firms</i> - Michael Bosu <i>An Enhanced Multi-Cloud Security Posture Framework for Kubernetes</i> - Dinesh Darshana Adikaram Wittachchi Koralege Don	K209
10.30 am – 12.00 pm	Session 2, Stream B Chair: Amit Sarkar Session Info: <i>Sustaining App-Based Solutions in Under-Resourced Civil Society Organisations: A Framework for Sustainable Digital Development and Community Ownership</i> - Bernard Otinpong <i>Exoskeleton workshop</i> Peter Olsen, Helen Marshall, Nay Lin Oo, Lindsey Alton, Graeme Harris, Tyson Huia, Brigit Kwell	K208
12.00 pm – 1.30 pm	LUNCH	K213a&b
1.30pm – 3:00 pm	Closing ceremony - details to be confirmed.	K213a&b
3:00 pm	CONFERENCE ENDS	



Short Papers

Short papers will be published but presented as posters. Authors will be standing by the posters during the break times to answer questions.

Paper Title	Authors
ThinkWriteQuest: AI-Supported Game Creation for Computational Thinking and Writing	Alex Yu (Wintec) Shaoqun Wu (University of Waikato)
Researching and Teaching Industry 4.0 and Artificial Intelligence with Practical Student Projects -	Emre Erturk (Eastern Institute of Technology) Istvan Lengyel (Eastern Institute of Technology)
Studio Hardware Team Projects.	Elise Allen (Otago Polytechnic) Vaughn Malkin (Otago Polytechnic)
Studio Operations Team Projects.	Elise Allen (Otago Polytechnic) Rob Broadley (Otago Polytechnic)
Checkpoint Tool	Elise Allen (Otago Polytechnic) Michael Holtz (Otago Polytechnic)
Evaluating the Quality of Generative AI Feedback for Novice Programming Students	Zainal Shah (Manukau Institute of Technology) David McCurdy (Manukau Institute of Technology)
Beyond the Capstone: An Industry Opportunity Fit Framework for Computing Education	Zainal Shah (Manukau Institute of Technology) David McCurdy (Manukau Institute of Technology)
Beyond Prompt Engineering: Quality-Assuring Reusable GenAI Feedback Configurations in Computing Education	Zainal Shah (Manukau Institute of Technology)
Zero-Shot Multiple-Choice Medical Question Answering in 3B-Parameter LLMs	Amardeep Singh (UCOL) Chandra Poudyal (UCOL) Caleb King (UCOL)
Building a FinOps Maturity Assessment Platform	Amitrajit Sarkar (Ara Institute of Canterbury) Jade Sainui (Ara Institute of Canterbury) David Weir (Ara Institute of Canterbury)
Intelligent Cloud Cost Insights	Amitrajit Sarkar (Ara Institute of Canterbury) Cushla Guo (Ara Institute of Canterbury) David Weir (Ara Institute of Canterbury)

Making Connections for Jade Software	David Weir (Ara Institute of Canterbury) Fernando Fiddymont (Ara Institute of Canterbury)
Realm Wreckers Integrated Development Tool	David Weir (Ara Institute of Canterbury) James Head (Ara Institute of Canterbury)
WedPro: A Wedding Marketplace for New Zealand Brides	David Weir (Ara Institute of Canterbury) Adrian Lim WS (Ara Institute of Canterbury)
UI Enhancement for Elixir Software	David Weir (Ara); Luchio Park (Ara); Laura Buist (Elixir Software)
Ferrostar .NET MAUI for Contec Group International	David Weir (Ara Institute of Canterbury) Luofeng Xu (Ara Institute of Canterbury) Flynn Stevens (Ara Institute of Canterbury)
AI as Connector, Not Substitute: Responsibility Boundaries for GenAI in Tertiary Computing Learner Support	Zainal Shah (Manukau Institute of Technology)
From Desktop to Browser: The Technical Evolution of a Self-Reporting Tool for Student Affect in Programming Education	Krissi Wood (Otago Polytechnic) Elise Allen (Otago Polytechnic)
Data Development for Sustainable Construction for V-Quest Limited	David Weir (Ara Institute of Canterbury) Bernard Otinpong (Ara Institute of Canterbury) Abby Heath (Ara Institute of Canterbury)
End-to-End Regression Testing Suite	David Weir (Ara Institute of Canterbury) Arsenie Sarmiento (Ara Institute of Canterbury)
Deploying a Service in Kubernetes for Ara Institute of Canterbury	David Weir (Ara Institute of Canterbury) Abdul Rehman (Ara Institute of Canterbury) Daniel McIntosh (Ara Institute of Canterbury)
Viral Giveaway Campaign Platform	David Weir (Ara Institute of Canterbury) Dipendra Ghimire (Ara Institute of Canterbury) Daniel Templer (Ara Institute of Canterbury)
STOAT Collector Investigation for Allied Telesis	David Weir (Ara Institute of Canterbury) Eddie Correia (Ara Institute of Canterbury) Jack Tait (Ara Institute of Canterbury)
Developing an Android Roding Application	David Weir (Ara Institute of Canterbury) Bernard Optinpong (Ara Institute of Canterbury) Luke Sheppard (Ara Institute of Canterbury)
Azure Services Monitoring for Tait Communications	David Weir (Ara Institute of Canterbury) Shayle Tasker (Ara Institute of Canterbury) Maria Lisov (Ara Institute of Canterbury)
IPv6 Multicast Scenario for Allied Telesis Labs	David Weir (Ara Institute of Canterbury) Abdul Rehman (Ara Institute of Canterbury) Raul Salcedo Jr (Ara Institute of Canterbury)
Auto-Inventory System Update	David Weir (Ara Institute of Canterbury)

	Arifah Addison (Ara Institute of Canterbury) Sam Taylor-Claude (Ara Institute of Canterbury)
School Network NZ Setup for Allied Telesis Labs	David Weir (Ara Institute of Canterbury) Abdul Rehman (Ara Institute of Canterbury) Shineyu Gupta (Ara Institute of Canterbury)
Smarter Defaults for Patient Note Workflows	David Weir (Ara Institute of Canterbury) Dipendra Ghimire (Ara Institute of Canterbury) Trek Ellwood (Ara Institute of Canterbury)
Auction Search Web Application for GAUK Media	David Weir (Ara Institute of Canterbury) Phillip Roxborough (Ara Institute of Canterbury) Aidan Whittaker (Ara Institute of Canterbury)
Learner Digital Capability Needs and Service Recommendations for Ara Institute of Canterbury	David Weir (Ara Institute of Canterbury) Phillip Roxborough (Ara Institute of Canterbury) Jacqui Webster (Ara Institute of Canterbury)
Improved Smart View Interface for Tait Communications	David Weir (Ara Institute of Canterbury) Phillip Roxborough (Ara Institute of Canterbury) Vincent Pullan (Ara Institute of Canterbury)
Build, Code, Think Bridging Hardware and Programming Through AI-Enabled Physical Computing	Zainal Shah (Manukau Institute of Technology) David McCurdy (Manukau Institute of Technology)
Strategic Academic Curriculum Redesign: Translating Multi-Sector Stakeholder Feedback into Program Reform.	Mehdi Asgarkhani (ARA Institute of Canterbury) Dipendra Ghimire (ARA Institute of Canterbury) Luofeng Xu (ARA Institute of Canterbury) Darbid Hatherley (ARA Institute of Canterbury)
Software Design Recommendations to Support Children with Autism Spectrum Disorder Recognise Emotions	Hiroshika Hinduramage (Wellington Institute of Technology)
Setting up Standards for Transnational Curriculum and Pedagogical Design: Bridging Cultural and Structural Dividends in Offshore Delivery.	Mehdi Asgarkhani (Ara Institute of Canterbury) Tim Aitchison (Ara Institute of Canterbury) Rebecca Zhou (TronKiwi) Luofeng Xu (Ara Institute of Canterbury) Tony Zhao (Ara Institute of Canterbury)
A Strategic Framework for Partnerships Between New Zealand and East Asia: Operationalising Cross-Cultural Transnational Education.	Mehdi Asgarkhani (Ara Institute of Canterbury) Lijun Zhang (Shenzhen Technology University) Luofeng Xu (Ara Institute of Canterbury)

Connecting to Ara Guest Wi-Fi

Instructions to connect to ARA-GUEST Wi-Fi

1. Open the Wi-Fi settings in your device.
2. Choose the network “**ARA-GUEST**” Wi-Fi and you will be prompted with “Sign into a Wi-Fi network”.
3. A pop-up window will open, then accept the terms and conditions. If the window does not pop up, going to any web page on a browser which should direct you to the terms and conditions page.
4. Once you’re logged in, it will redirect you to the Ara Homepage which indicates you can then access internet.

Please note that you will be prompted to accept the terms and conditions each day.

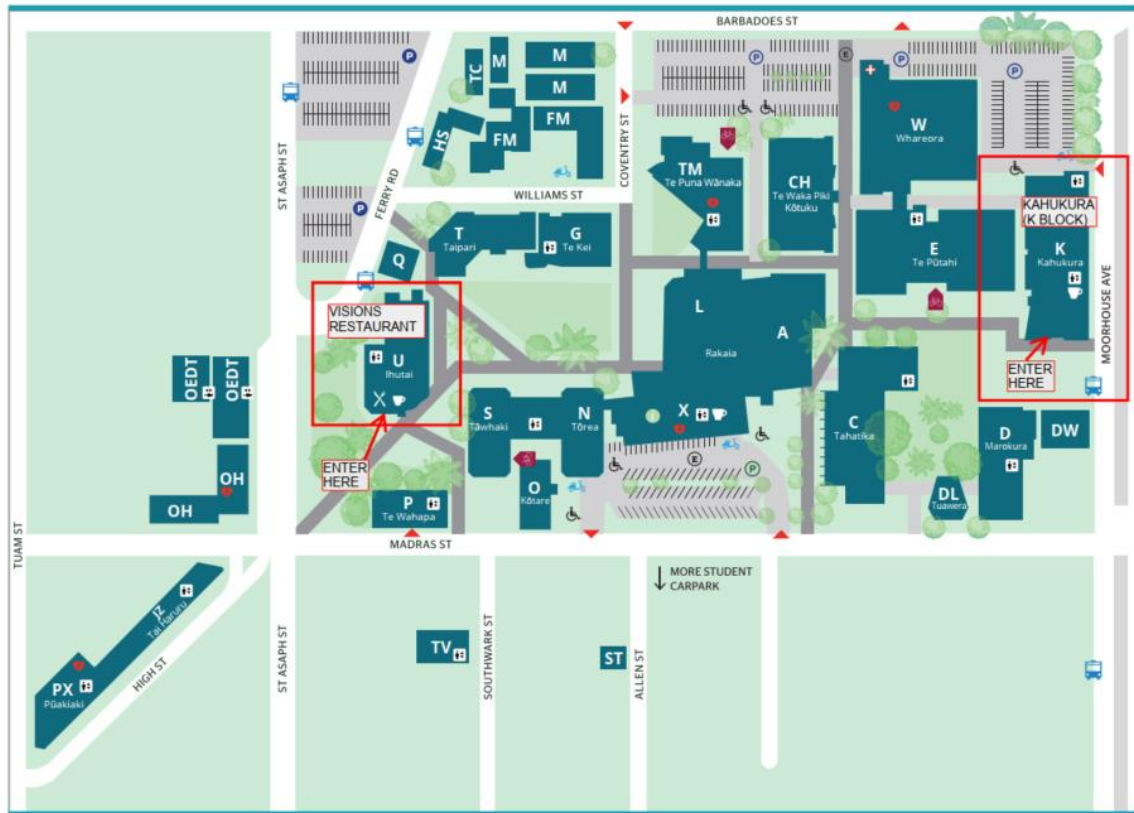
For any issues, please seek assistance from an Ara staff member.

Presentation Technology and AV Arrangements

Presenters are advised to **bring a copy of their presentation on a USB stick**, which will be the primary method for loading and delivering presentations. This provides a simple plug-and-play option in the presentation room.

As a contingency, please also email a copy of your presentation to our Operations Manager, Kirsty Robertson, at Kirsty.Robertson@Ara.ac.nz.

If your presentation involves anything unusual or requires specialist software, applications, or other technical arrangements, please bring your own laptop. You will be able to connect your laptop to the room’s AV system using the HDMI cable provided.



Departments

Applied Sciences and Social Practice	S
Art and Design	D
Beauty Therapy	PX, JX
Business	A
Cookery and Bakery	U
Creative Industries	D
Computing	S
Digital Technology	A
Early Childhood Education	N
Engineering and Architectural Studies	K
English Language	A
Fashion	C
Hospitality and Tourism	U
Hairdressing and Barbering	PX
Music Arts	JZ
NASDA (National Academy of Singing and Dramatic Arts)	E
Next Step Centre for Women	W
New Zealand Broadcasting School	TV, P
Outdoor Education	HS
Photography	D
Supported Learning (Workskills)	W
Teacher Education	A
Te Puna Wānaka (Māori and Pacific Studies)	TM

Services & Facilities

Academic Records	A
Admissions and Enrolments	X
Career Centre	X
Childcare Facilities	CH
Citizens Advice Bureau	HS
Disability Services	L
English Exam Centre	A
Gym	W
Health Centre	W
Information Desk	X
International Student Advisors	X
ICT Helpdesk	T
Learning Self Access Centre (LSAC)	L
Learning Services	L
Library	L
Osteopathic Clinic	O
Printery	T
Security (ID cards, lost and found)	X
Student Accommodation (Ōtautahi House)	OH, OEDT
Student Support	L
The Zone	W
Visions on Campus Restaurant	U

Administration & Support Divisions

Academic Division	A
Custodians	FM
Engagement (Youth & Community, Business Development)	G
Executive	G
Facilities Management	FM
Finance	G
Health & Safety Manager	G
People & Culture	G
International	G
Inwards Goods	FM
Marketing	G
Research	A
Student Voice	C
Student Advisor, Wellbeing	C
Student Events	C

Venues

DL Block Lecture Theatre	DL
Imagitech Theatre	A
Plains FM	P
Rakaia Centre	X
Student Lounge	C
Visions on Campus Restaurant	U
Whareora	W

KEY

	Admissions & Enrolments, Information Desk
	Accessible Carpark/Building
	Student Carpark
	Staff Carpark
	Covered Secure Cycle Compound
	Motorcycle park
	AED (Defibrillators)
	Health Centre
	Bus Stop*
	Café
	Evacuation Points
	Accessible Entrance
	Lift
	Water fountain

*Please check with Metroinfo for the latest bus information.