



Director's Report

Steering Committee Meeting

17 May 2024

Strategy

1. Strategic Plan

Last year the Strategic Plan was updated. A copy of the updated CDS Strategic Plan was provided at the last Steering Committee meeting and this has now been uploaded to the CDS website.

Look in: to foster and connect QUT's capabilities in Data Science to achieve their full potential

Look out: to pursue world-class research and research translation in Data Science

Look up: to advance the Centre and QUT as a national and international leader in Data Science

Look forward: to support the development of the next generation of data scientists

2. Focus on collaboration

A primary strategic aim of the Centre remains to increase opportunities for collaborative research in data science which is facilitated through many of the Centre's strategies and initiatives.

The Centre remains committed to creating meaningful collaborations with external entities. These include research partners, leaders, members of the Australian Data Science Network (ADSN), and the Queensland AI Hub.

Centre hosted the Australian Data Science Network's satellite event for the 2023 UN Datathon in November. This event saw over 30 people from ADSN partner organisations attend QUT to participate alongside 10 members from CDS. One of the teams which included PhD candidate Jamie Hogg came 2nd globally out of over 400 teams, [details here](#).

18 delegates from the QUT Centre for Data Science also presented their research at the annual [ADSN Conference in 2023](#) which was held in Adelaide last December.

A full list of funded projects associated with the Centre for Data Science is in Appendix 2.

3. Promotion of equity and diversity

The promotion of equity and diversity in data science continues to be a key strategy in creating an active and inclusive representation of Data Science across QUT. Our funding schemes (e.g., PhD top-ups, First Byte grants) continue to explicitly seek and consider information about the potential for the student-supervisor-project combination to promote diversity and inclusion.

i. **Women in Data Science**

The Centre coordinated the 2024 "Rising WiDS Stars" ADSN event for the second year. This year's event saw 25 women PhD students and ECRs from ADSN partner organisations speak about their journeys in data science.

Women represent 39 % of Chief Investigators in the Centre.

ii. **Aboriginal and Torres Strait Islander engagement**

The Centre has a number of partnerships and projects with Indigenous Australian organisations and groups such as the Aboriginal and Torres Strait Islander Community Health Service Brisbane (ATSICHS) the Institute of Urban Indigenous Health (UIIH) and the Indigenous Data Network (IDN).

The Centre is engaging with an undergraduate Indigenous Australian student to develop a research project through the FoS IARTS scheme. The Centre also is continuing to promote research experiences through its [Aboriginal and Torres Strait Islander Higher Degree Research Pathways Program \(Data Science\)](#).

The Centre has one Indigenous Australian student enrolled in HDR.

The Centre is also developing a program to co-fund 2 x internships with ATSICHS.

4. **Increasing capability in data science**

i. **First and Second Byte Schemes**

The First and Second Byte Schemes exemplify the Centre's commitment to increasing capability in data science. In the 2023/2024 round the centre awarded the following:

First Byte for Early Career Researchers

- Mostafa Khatami - Optimised Parcel Locker Network Design to Improve Last Mile Delivery
- Matthew Sutton - New Methods for Bayesian Federated Learning
- Jacob Bradford - Towards empowering cochlear implant recipients to demonstrate to others "this is how the world sounds to me"
- Wathsala Mohotti - Uncertainty-guided Multi-modal Topic modeling
- Aiden Price - Service Accessibility Impact Mapping for Disaster Resilience in Queensland, Australia

Second Byte for Mid-Career Researchers

- Matthew Adams - EEMtoolbox: Efficient generation of plausible quantitative models for ecosystem networks
- Helen Thompson - Mapping Cancer's Toll: Exploring Geographic Disparities in Loss of Life Expectancy and Crude Probability of Death Across Australia
- Md Abul Bashar - Semi-supervised Named Entity Recognition (NER) for Cybersecurity with Generative Adversarial Networks (GAN) and Reinforcement Learning
- Edgar Santos Fernandez - Innovative Statistical Modeling for Extensive River Network Data

Feedback is currently being collected on outputs or other outcomes from previous schemes. To add to the previous feedback which has been collected.

ii. **Leadership and structure**

The Centre's Core Team consists of D/Professor Kerrie Mengersen (Director), Professor Richi Nayak (Deputy Director), Professor Ashish Baskar, Professor Divya Mehta and Dr Bernadette Hyland-Wood. Professor James McGree has stepped down from the Core Team, however continues to co-lead the Data for Discovery program.

The Centre's core research programs have been reviewed and the following changes have been made:

- The Models and Algorithms program has been merged with the Complex Data Analysis program to form **Complex Data Analytics**. The Co-leads for this program and Professor Richi Nayak, Dr Simon Denman and Dr David Warne.
- The Human Centred AI program has been merged with the Responsible Data Science program to form **Responsible Data Science & AI**. Dr Aaron Snoswell and Associate Professor Chun Ouyang have joined Dr Bernadette Hyland-Wood as co-leads for the Responsible Data Science & AI Program.
- The third program, **Data for Discovery** remains unchanged, the co-leads are Professor James McGree and Professor Moe Thandar Wynn.

No changes have been made to the Centre's domains, however the domain areas are being reviewed.

Professor Adam Clements has stepped down as co-lead of the Business and Engineering Systems Domain. Recruitment is underway for a co-lead from the Business/Finance area.

Dr Andrew Gibson has stepped down from the eResearch domain to work on a learning teaching and training initiative. A/Prof Roberto Barrero Gumiel has replaced Andrew as co-lead.

iii. Program and Domain activities

Each of the Centre's programs and domains are arranging 2 activities each in 2024, one in semester 1 and one in semester 2. One event is to be open to all in the centre to attend, to learn more about the purpose of the group, and the second is a specific activity such as a workshop or guest seminar. Project Officer Tracy Kelly is assisting with event organisation and promotion.

Performance

The Centre was not required to provide an annual report for 2023. The Centre underwent an external review in 2023 and the outcomes were discussed at the previous meeting.

Following the review we have been working to incorporate the feedback. In relation to performance it was noted that the "Centre could consider closely monitoring the volume of research funding in different categories over time" to track commercial research income. We will review this when the next reporting data becomes available.

Risk Management

Risks have been identified as being around either people or data.

1. People

People risks include health and wellbeing. Risk management includes supporting staff wellbeing and supporting employment by activities such as: Peers and Pizza, HDR Academy, Seminars on behaviours and code of conduct.

2. Data

Data risks are managed by data governance mechanisms, data ethics workshops teaching good behaviour and practice surrounding data.

Finance and Resourcing

1. Finance

In 2023, the Centre spent \$1,477,781 of \$1.5 million.

A copy of the Centre's 2024 budget is attached with the 2024 finance summary below:

2024 Summary		321125 CDS
Total allocated funding		905,547
<u>Year to date actuals</u>		
Year to date salary	93,652	
Year to date scholarships	69,776	
Year to date University transfer	-	
Year to date other expenses	-2,434	160,994
Existing Commitments		
Salary commitment	416,084	
Scholarship	391,834	
NGGP Scholarships to trf out	-125,871	682,047
Uncommitted funds		62,506

2. Resourcing

i. **Administrative Appointments**

No Administrative Appointments have been made since the last Steering Committee meeting. Becki Cook will be stepping down as Centre Manager from 23 June 2024 and will be undertaking her PhD full-time. Recruitment is underway for a new Centre Manager. She will be engaged for 1 day/week to support the transition to a new Centre Manager and to provide support to Indigenous Research initiatives within the Centre.

ii. Academic Appointments

No new academic appointments have been made since the last Steering Committee Meeting.

iii. Centre Participants

The Centre continues to monitor whether its members meet the criteria for consideration as a Centre Chief Investigator. Currently there are 54 members who are Centre CIs.

Academic Matters

1. Educational programs

Following the feedback from the external review to strengthen ties with teaching and learning across the university as well as exploring the potential to provide training to people and organisations external to QUT, Dr Andrew Gibson is leading a project called the Learning, Teaching and Training Initiative (LTTI).

This initiative would initially involve a mapping of current QUT units to find which units involve Data Science concepts and/or methods and relationships with existing members of the centre. This could then be exploited to strengthen existing synergies as well as open up new relationships between the centre and unit coordinators. In the short term this may allow the sharing of expertise and resources facilitating harmonisation of approaches to DS within the curriculum. A connection with relevant QUT units may also help open pathways for Honours students with DS focus, and pathways to DS research. Over time, the initiative is expected to help enhance Data Science in existing courses as well as contributing to the development of new short-courses, micro-credentials, and training offerings.

Brand

The Centre Director is aware of the Centre's impact on the University's brand, reputation and marketing strategies. CDS leaders aim to abide by and enhance these strategies.

Initiatives and Engagement Activities

A summary of centre activities has been added to the events page on the [Centre's website](#). This information is also available on the SharePoint calendar.

1. Engagement Activities

The Centre continues to hold a number of events through a combination of in-person, virtual and mixed modes.

i. Data Science in the News

This series is continuing in 2024 and is held in collaboration with the Queensland Academy of Arts and Sciences (QAAS). The series is held every 2 months. The Centre organised the first webinar for

2024 on Friday 22 March on the topic of Homelessness: how can data help? 36 people joined for the live session and an additional 63 have viewed the recording. The next session is led by QAAS and will be held on the topic of the Digital Economy on Friday 24 May.

Recordings of the webinars are accessible via the Centre's [website](#).

ii. Topics in Modern Data Science

Led by Government Systems Domain Co-lead, Gentry White, this series commenced in May 2023 and is held on the last Wednesday of each month and is disseminated to colleagues at QUT and the Australian Bureau of Statistics. Recordings can be found [here](#).

iii. Looking out: International Centre Seminar Series

The launch of a new series focussing on the Centre's strategic goal of 'looking out' is underway. This series aims to spotlight different data science centres from around the globe to provide insights into their focus, priorities and structure. This will run in the alternate month to Data Science in the News with the first session planned for June.

iv. Distinguished Visitors Seminar Series

The Centre has hosted the following distinguished visitors in 2024:

- Professor Bin Yu, UC Berkley
- Professor Antonietta Mira, USI
- Professor Fabrizio Ruggeri, ISI President
- Professor Victor Elvira, University of Edinburgh
- Professor Paulo Canas Rodrigues, Statistical Learning Laboratory

Recorded talks are available on the Centre's [website](#).

Professor Alan Agresti and Professor Thilo Stadelmann are visiting the Centre late this year.

v. HDR Academy

Postdoc researcher, Morenikeji (Deborah) Akinlotan and Professor Richi Nayak are leading the HDR Academy this year. The first event was held on 9 May and focussed on "Life after a PhD". Guest presenters included recent graduates and postdocs.

vi. Networks and Communications

Twitter followers have grown from 2099 followers (as of 3 October 2023) to 2272 followers (as of 29 April 2024). [LinkedIn](#) followers have increased from 1034 followers (3 October 2023) to 2013 followers (as of 29 April 2024).

News stories regarding the Centre are also posted on the CDS Website [here](#).

vii. Workshops

The Centre has led the following workshops and events so far in 2024:

- Bayes on the Beach Bayesian Statistical Conference
- ANZICS Intensive Care Datathon
- Time-series modelling workshop with Professor Paulo Canas Rodrigues

2. Research Initiatives

i. Scholarships

We received 19 applications for the centrally funded Centre Scholarship for 2024. Following a review process, the scholarship was awarded to Abdur Rehman Khan who's supervisor is Yue Xu. This student has not yet commenced as was having difficulty obtaining study leave however, they have accepted the offer and obtained a student visa.

ii. NGGP

We have been awarded two grants, worth a total of \$2.27 million, to train a cohort of sports data scientists to tackle new challenges faced by Australia's sports tech industry. A launch was held on 28 March for the Next Generation Graduates Program.

5 HDR students have commenced, 4 are at QUT. The remaining 20 scholarships are at various stages of progress.

iii. Research Potential Fund

Awarded \$4.75M cash over 5 years (\$950K p.a.) from QUT RPF for 3 Chairs (Data Science, Sports Science and the Business of Sport), 3 postdocs (Level B), 1 PhD stipend, 1 Hub Manager (0.2 FTE)

