



Director's Report

Steering Committee Meeting

19 May 2022

Strategy

The Centre for Data Science Core Team has reflected on the strategic plan and the strategies outlined within remain the same.

The Centre strives to increase opportunities for collaborative research in data science and values the importance of mutual attribution across various QUT Centres, Schools and Faculties.

1. 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. Review panels are convened to ensure gender balance.

i. **Women in Data Science Day (WiDS)**

The WiDS QUT event originally planned for 7 March, was postponed due to flooding and the omicron wave. This event has been rescheduled for 15 June 2022.

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

The Aboriginal and Torres Strait Islander HDR Pathways Program (Data Science) has been developed in collaboration with the Carumba Institute, Oodgeroo Unit and Faculty of Science. This scheme comprises of a community showcase, research experience and scholarships to encourage and support Aboriginal and Torres Strait Islander Peoples to undertake HDR in Data Science. The scheme will be launched for semester two concurrently with the Faculty's IARTS initiative. In addition to enhancing Aboriginal and Torres Strait Islander engagement in data science this scheme aligns with the strategy to **expose undergraduate students to research in CDS and increase participation in Data Science**. Further details of this scheme are in in submission 2.1.

2. 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 early 2021, the CDS rolled out the inaugural First Byte Program for ECR researchers. This program has now fully wrapped and final project reports have been received. Reports indicate that this scheme has been highly beneficial to ECRs and provided not only funding to undertake high quality research, but for many was their first experience supervising research assistants and managing a budget. The scheme has also led to future research collaborations and manuscripts.

The final stages of report submission are underway for the second rollout of the First Byte Scheme and the first round of the Second Byte Scheme for mid-career researchers.

[CDS First Byte Funding Program 2021](#)

[CDS First Byte Funding Program 2021 - Round 2](#)

[CDS Second Byte Funding Program 2021](#)

Due to the success of these schemes, interest and feedback from recipients, budget permitting, there will be a further offering of this initiative in 2022.

ii. Leadership

Professor Richi Nayak has stepped into the Centre Deputy Director position. Professor David Lovell has stepped aside and remains an optional member of the CDS Core Team.

The Leaders and Co-Leaders of the CDS Research Programs have had some changes. Jinglan Zhang has stepped down as the Environment and Natural Systems Domain co-lead and this role is currently vacant. Tim Graham has stepped down as a Social Systems Domain co-lead and recruitment is underway for this role.

3. Centre Structure

The Applied Data Science Domain has been renamed to Complex Data Analysis.

Performance

High Level Goals	Operational Plan	KPI Measures (per annum unless otherwise stated)	YTD KPI (as of 12 May 2022)
1. To create an active Centre that is inclusive and representative of Data Science expertise across QUT	Recruit AIs across QUT Create DataScience@QUT Network	50 AIs 25 DataScience@QUT	98 CIs and AIs 23 DataScience@QUT
	Develop a successful program of joint activities for the Centre	2 DataScience for HDR Networking session 9 DataScience Under the Hood seminars	1 HDR Academy Meeting in 2022 2022 2 held, next in June
	Develop equity and diversity policy in line with QUT and professional policies	% of female Centre Participants – 30% Women in DS networking session	31% Female Centre CIs Women in Data Science Day Indigenous HDR Pathway Program
2. To become internationally respected and renowned for world-class, frontier research in data science	Appoint CDS postdocs	6 postdocs 5 Schools	3 CDS postdocs + 4 cofunded as of May 7
	Provide CDS PhD scholarship top-ups	6 scholarships top-ups	top ups + 21 CDS and Cofunded Scholarships
	Enlist other CDS researchers and students	50 peer-reviewed journals articles by Centre Participants 5 joint publications between different groups at QUT. 5 CDS awards	89 (to Jul 2021 – awaiting 2022 data) 9 CDS awards in 2021
3. To amplify impact of CDS through external	Fund and organise a Distinguished Visitors Seminar Program	5 Distinguished Visitors	2 seminars held so far, 4 more booked in

partnerships in research and translation	Develop a program of Data Science Workshops aligned to CDS Domains	3 collaborative workshops	Each program and domain to hold 2 activities in 2022
	Identify and publicise external funding opportunities	5 CAT1 joint research grant applications	2022 TBA
4. To advance the Centre and QUT as a national leader in Data Science	Develop and lead an Australia Data Science Network (ASDN)	10 ASDN members	24 ASDN members
	Develop and promote collaborations with international cognate centres	3 international collaborators	2 international collaborations with cognate centres (UK, Canada)
	*Develop an ASDN website	ASDN website	Website updated
	*Develop a social media program for CDS and ASDN	100 Twitter followers	1537 @QUTDataScience Twitter followers 580 @AustralianData Twitter followers
5. To train world class postgraduates, researchers and practitioners within the Centre research culture	Encourage and promote joint research supervision in collaboration with relevant Faculties/Schools.	Supervision of 25 HDRs	As of March 2022 136 HDR students supervised.
	Organise external networking events	4 industry events	HD Launch planned
6. To increase participation in Data Science research	Develop and implement a CDS undergraduate VRES program in collaboration with relevant Faculties/Schools.	5 undergraduates per year in VRES program	4 in 2021 CDS to support IARTS and SREP
7. To increase general capability in Data Science	Develop a CDS Professional Sabbatical Program	2 participants	1 participant in 2021 joint with ACEMS, from Dingo.
	Promote and support QUT and national internship programs for CDS ECRs and postgraduates	2 participants	None undertaken in 2021.

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

The Centre has a limited budget for 2022 as a result of commitments made in 2020 and 2021 (scholarships, postdoc appointments, First and Second Byte schemes) and no rollover of unspent funds (approx. 800K) from 2021.

Due to a number of postdocs obtaining other appointments (either obtaining cofunding from Industry Partners, or employment outside CDS/QUT), we have been able to support the pre-existing commitments.

The Centre Manager has regular meetings with Faculty Finance to monitor the budget. The 2022 Budget is shown as [Appendix 1](#) and we anticipate expending the full amount in 2022. Planned activities in 2022 include:

[Travel support](#) of up to \$2000.

[APC Support](#)

Further First and Second Byte Scheme rounds if budget permits.

Salary and scholarship commitments are expected to utilise the majority of the CDS Budget (\$1,378,516).

2. Resourcing

i. [Administrative Appointments](#)

Tim Macuga has commenced as the Senior Project Officer and is leading the development of research networks and communications for CDS and ADSN.

Desmond Frescon has commenced 0.4FTE as Project Officer to support the activities Becki Cook is undertaking as part of the ATSICHS Data Literacy Project funded by the QUT Ignite Scheme.

ii. [Data Scientist in Residence](#)

The Centre has appointed a Professor in Practice as its inaugural CDS Data Scientist in Residence. Dr Rachel Thomas commenced in the role on 16 August 2021 and will finish in August 2022. This will leave a gap in our work on data ethics.

iii. [Centre Participants](#)

Centre participants have remained stable since the last Management Committee Meeting.

Academic Matters

1. Postdoctoral appointments

There are currently 2 CDS Postdocs engaged in teaching activities with the School of Mathematical Sciences. This arrangement has provided the postdocs to gain teaching experience and extend their appointments at QUT.

4 Postdocs have been able to obtain co-funding for their appointments. This has also facilitated extensions of appointments and the opportunity to collaborate with industry partners.

2. Educational programs

The Centre for Data Science would like to explore the possibility of engaging in corporate education programs.

Brand

[brand] provides advice to the Centre Director and the relevant Executive Dean of the primary host Faculty on the Centre's impact on the University's brand, reputation and marketing strategies

TBC

Initiatives and Engagement Activities

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**

The Data Science in the News webinar recommenced after a summer break and four sessions have been held so far. "Emerging Trends in AI and Data Science" was held in March with over 65 live attendees. Two webinars were held in April with "Post-pandemic, is life just permanently digital?" and a special edition in response to the Flooding and Weather Emergency. In response to the 2022 Federal Election, May was an Election Edition focused on the Power of Data in the Election.

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

ii. **Data Science Under the Hood**

Since the previous meeting, further seminars in this series, which aims to disseminate, to the DataScience@QUT network, fundamental and cutting-edge data science methods that have been developed across several disciplines have taken place.

- 27 October 2021 - Modelling small area level data using Bayesian spatial models
- 30 November 2021 - Modelling small area level data using Bayesian spatial models
- 25 February 2022 - What We Don't Talk About When We Talk About Machine Learning
- 29 April 2022 – Improving Monte Carlo estimates with control variates

Seminars are planned bi-monthly with the next due to take place on June 20. Recordings are available on the [website](#).

iii. Distinguished Visitors Seminar Series

With the recommencement of international travel we have now been able to offer hybrid seminars for guests who are visiting QUT in addition to online only. Our first hybrid seminar was presented by Florence Forbes on [Approximate Bayesian computation with surrogate posteriors](#). There has been great interest to have guests present as part of this series with four more seminars planned so far. The next seminar is planned for 19 May 2022 and will be presented by Sandra Johnson from ConsenSys Software, "[Probably Stateless: Modelling the Feasibility of Stateless Ethereum](#)"

iv. Early Career Seminar Series

Our ECRs (HDR students and Postdoctoral Researchers) have continued to lead the 'Early Career Bayes Seminar Series' to enable ECRs to give invited presentations. In addition to being valuable for knowledge exchange, this series provides opportunities for ECRs to build their profile despite covid-19 restrictions to travel and face-to-face meetings.

Recent additions to this series were:

- 21 December 2021: Nick Tierney - Greta: Simple and Scalable Statistical Modelling in R
- 13 April 2022: Saifuddin Syed University of British Columbia - Non-reversible parallel tempering on optimized paths

The next seminar is planned for Thursday 26 May and will be presented by Mary Llewellyn - University of Edinburgh).

v. HDR Academy

The HDR Academy kicked off for 2022 on 7 April. This event included two main activities: (1) discussion on HDR active engagement with the Academy as the leadership committee members and leading future events; (2) a snapshot of the opportunities offered by the Graduate Research Education and Development (GRE+D) team.

vi. QUTBANDS

We have continued to engage with the student group QUTBANDS to cross promote data science activities and opportunities.

vii. Reading Groups

The Human Data Interaction Reading group has also continued in 2022 within the [Data Focused Decision-Making](#) program.

viii. Networks and Communications

Twitter followers have grown from 1023 followers (as of 1 October, 2021) to 1528 followers (as of 5 May 2022). The Centre also now has a presence on [LinkedIn](#) with 306 followers.

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

2. Research Initiatives

i. Program/Domain Funding

In 2021 the Centre awarded each program/domain up to \$50k to fund research projects strategically aligned with its vision. Similar to the First and Second Byte scheme, this initiative encouraged research collaboration between CDS participants, promote diversity and inclusion and encourages research that is likely to lead to further grant funding. This scheme had varying levels of success. Those programs and domains that were firmly established were able to finalise a number of projects, while newer, smaller domains did not use the available budget. This scheme will not be offered in 2022.

ii. Scholarships

The Centre has not awarded Centre funded scholarships since the previous meeting.

There has been an award of three co-funded PhD Scholarships under the QAS/AIS strategic partnership and these students have all commenced.

The Centre has continued to establish scholarships that are cofounded with industry partners and will be funding 3 PhD scholarships with Hastings Deering.

2 Scholarships cofounded with the ABS remain unfilled.

3. Major Initiatives

iii. ITTC

Awaiting the outcome.

iv. ARM Hub Digital AI Capability

Submitted

v. CoE Collaboration

The Centre for Data Science would like to explore collaboration with schools and centres on ARC CoE applications.

There is an opportunity for collaboration with the School of Electrical Engineering and Robotics on stage 2 of the next CoE bid particularly in the area of computer science, cybersecurity and data science.

vi. MRFF

Title: Implementing and Evaluating a New Model of Urgent Care

CIs: Ralph, N., MacDonald, S., FitzGerald, G., Toloo, G., McGree, J., Oprescu, F., Gow, J., Gray, M., Kinnear, F.

vii. ARC DP

A number of members are involved in DP applications. Awaiting the outcomes.