



Postdoctoral Research Fellow – Investigating the Diversity of Search Results

ARC CENTRE OF EXCELLENCE FOR AUTOMATED DECISION-MAKING AND SOCIETY
FACULTY OF CREATIVE INDUSTRIES, EDUCATION AND SOCIAL JUSTICE
ACADEMIC DIVISION



About the Position

We are currently seeking a Postdoctoral Research Fellow for the Australian Research Council Centre of Excellence for Automated Decision Making and Society (ADM+S) project 'Australian Search Experience 2.0'. Within this project, the Postdoctoral Research Fellow will lead research that systematically assesses the diversity and quality of organic and paid search results and other content on search results pages from leading search engines, as systematically prompted by generative AI systems simulating the diversity of search queries employed by human users when searching for a given topic, and contribute to collaborative work in a multi-institutional ADM+S team that investigates the impact of search query variations on the quality of information retrieved.

Comprehensive analyses of search results from mainstream search engines, by stage 1 of the Australian Search Experience project and other research groups, have debunked the thesis that search engines provide highly personalised results and thereby enclose different users in individualised 'filter bubbles' even if they search for the same terms. This has shifted research attention back to variations in how users search: differences in users' search engine literacy and, as a result, query formulation strategies may explain why individual users obtain divergent results for different queries on broadly similar topics.

The Australian Search Experience 2.0 project systematically assesses such results variation by using generative AI to construct a wide range of queries on a given topic and assessing the diversity and quality of search results these queries produce, including both organic and paid results as well as additional information blocks in sidebars and elsewhere on the results page. The evaluation of the large scale observational data that the project produces will shed new light on the impact of search literacy on the quality and reliability of the information environment users construct for themselves, and contribute to improvements both to the design of search engine functionality and of digital literacy initiatives. This evaluation will draw on a combination of large-scale quantitative analysis and close qualitative evaluation of search results data, critical algorithm studies of search engine recommender systems, and normative theory on quality and diversity in search recommendations. As search remains a vital source of information, and is increasingly

transformed by new technological developments (e.g. AI-based results summaries, voice-based search interfaces), the research conducted in this project is more critical than ever.

Possible questions to be explored include:

- What normative or other frameworks may be applied to the evaluation of search result diversity and quality?
- How do variations in search queries (e.g. clarity of expression, specificity of query, implicit biases) affect the diversity and quality of results received?
- What evidence is there of server-side results curation (e.g. for severely biased queries that imply pre-existing extremist views such as vaccine denial or climate change denial)?
- If query diversity affects the quality of results received, what opportunities exist to address the impact of low quality queries on information quality – e.g. on the server side through algorithmic improvements or on the user side through search literacy interventions?

The Postdoctoral Research Fellow will have a background in a relevant discipline and field of study, and may have methodological expertise in one or more of computational social science, communication and media studies.

The Postdoctoral Research Fellow will be based in the QUT School of Communication and Digital Media Research Centre, and will collaborate closely with the QUT GenAI Lab, as well as across the ADM+S Centre at QUT and around Australia. All Centre Research Fellows have access to the ADM+S's research training and professional development opportunities, international visiting fellowships and exchanges (travel arrangements permitting), and the Centre's network of industry partners.

This position reports to Professor Axel Bruns, Chief Investigator ADM+S for career planning, development, and performance expectations.

Key responsibilities include:

- Conducting high-quality research that contributes to the objectives of the Australian Search Experience 2.0 project both independently and as part of project teams.
- Identifying and helping to realise collaborative research opportunities, including participating in the development

of industry partnerships and new funding opportunities.

- Supporting the Chief Investigators in coordinating the research activities as required.
- Preparing and publishing research outcomes in relevant high-quality refereed journals, reports and/or books.
- Presenting research outcomes at seminars, conferences, and industry meetings, and engaging with external stakeholders.
- Contributing to public understanding and debate through media, industry and/or policy engagement.
- Contributing actively to the ADM+S, DMRC and School of Communication research culture, including participation in research collaboration and community-building.
- Contributing to educational and research training activities (such as short or intensive courses, executive education, master classes, workshops), and co-supervising PhD or Masters students.
- Conforming to QUT and ADM+S Centre requirements with respect to research ethics and integrity and data management.
- Compliance with health and safety policies, procedures, hazard reporting and safe work practices
- Implementing and administering University policy within the Faculty with respect to equitable access to education and workplace health and safety.

To ensure job flexibility the successful appointee may be required to:

- perform any other duties as nominated by the University consistent with the relevant classification descriptors detailed in the Enterprise Agreement. Staff undertaking any new duties will receive training;
- participate in job rotation or multiskilling in consultation with their supervisor;
- work across campuses

To be appointed as a Postdoctoral Fellow the successful applicant must meet the position classification standards outlined in the [QUT Enterprise Agreement \(Academic Staff\)](#).

Type of appointment

This appointment will be offered on a fixed-term, full-time basis for 3 years.

Location

Kelvin Grove campus.

Selection Criteria

1. Completion of a PhD in a relevant discipline area by the time of appointment.
2. Demonstrated experience and methodological expertise in the study of complex multi-modal digital media data.
3. Proven scholarly writing skills and experience in preparing publications for a variety of audiences, including high-quality scholarly articles in refereed journals, conference papers, book chapters, and/or books.
4. Proven ability to work independently to generate distinctive contributions to scholarly knowledge and/or create real world outcomes.
5. Capacity to adapt research expertise into meaningful learning experiences for diverse student cohorts.
6. Excellent interpersonal skills and the ability to collaborate effectively with interdisciplinary teams and external stakeholders.

Remuneration and Benefits

The classification for this position is Academic Level B (LEVB) which has an annual remuneration range of AUD\$130,347 to AUD\$154,804 pa. Which is inclusive of an annual salary range of AUD\$110,145 to AUD\$130,811 pa, 17% superannuation and leave loading.

At QUT, we believe that a fulfilling career goes beyond personal and professional development. We are pleased to offer real and generous benefits that include, but are not limited to:

- A healthy work-life balance.
- Competitive remuneration with up to 17% superannuation.
- Generous parental leave including primary carer parental leave of up to 26 weeks (including 17% super).
- Fitness passport and discounted rates on private health insurance.
- Leave loading of 17.5%.
- Purchased Leave Scheme - up to 8 extra weeks.
- Salary Packaging Scheme
- Comprehensive professional development opportunities, including leadership programs and study assistance.
- [Commitment to our Indigenous Australian staff](#) through initiatives such as the Indigenous Australian Staff Network,

Cultural and Ceremonial Leave, Staff Development Workshops and representation on university committees.

- We see [diversity and inclusion](#) as our strength.

Explore more benefits on our [website](#).

Information for applicants

Please note that current staff wishing to be considered for secondment to this position must seek prior approval from their supervisor before submitting an application.

QUT welcomes applications from candidates outside the greater Brisbane area. QUT may meet some travel and relocation expenses.

Candidates who are interested in the position are encouraged to apply even though they may feel they are not strong on individual selection criteria.

In assessing merit, the panel will take into consideration “performance or achievement relative to opportunity”. We recognise that many staff today have a range of personal circumstances, and career histories that challenge traditional ideas of an academic staff member. This may mean, for example, prioritising the quality of achievement rather than the quantity, as considerations of part-time employment, career interruptions and significant periods of leave are taken into account when assessing performance or achievement.

The selection panel is also committed to conducting a process which is fair and free from bias, including unconscious bias.

Belong at QUT

We are guided by our values of [Ambition](#), [Curiosity](#), [Integrity](#), [Inclusiveness](#), [Innovation](#), and [Academic Freedom](#) and our [QUT Connections](#) in our mission to inspire and shape the next generation of change-makers.

As part of our commitment to fostering an inclusive workplace, we proudly support our [Indigenous Australians Employment Strategy](#), aiming for an Indigenous Australian workforce participation of 3.6%. We extend a warm invitation to Aboriginal Australians and Torres Strait Islander people to join us in pursuing rewarding careers at QUT.

We believe that diversity is our strength and are dedicated to creating safe, inclusive spaces where everyone can thrive. We strongly encourage individuals from diverse cultures, ages, linguistic backgrounds, sexual orientations, and gender identities, and those who are living with disabilities to apply for positions at QUT.

At QUT, diversity is not just embraced—it's celebrated. [See our commitment](#)

How to Apply

For further information about the position, please contact Professor Axel Bruns Chief Investigator ARC CoE for ADM+S, by email at a.bruns@qut.edu.au; or for further information about working at QUT contact Human Resources on (07) 3138 5000.

For further information and to apply, please visit www.qut.edu.au/careers for reference number **24556**.

When applying for this position your application must include the following:

- A current resume
- A written response to the selection criteria

Applications close 22 August 2024

About QUT

QUT is a major Australian university with a global reputation and a ‘real world’ focus. Our courses equip our students and graduates with the skills and mindset they need to realise their full potential in a rapidly changing world. With more than 50,000 students across two inner-city campuses in Brisbane, QUT offers academic programs in fields spanning business, creative industries, education, engineering, health, law, science and social justice across five faculties.

We are transforming the learning experience—embedding work integrated learning and focusing on developing entrepreneurial skills. We offer executive education and professional development through QUTeX, flexible learning through QUT Online and pathways into our undergraduate programs through QUT College.

With a history of access, innovation and inspiration, QUT has maintained a strong ethos of being the university for the real world. Our students experience award-winning teaching, high levels of satisfaction and excellent graduate employment outcomes.

We are an ambitious institution, with strong research programs which connect with fundamental enquiry into societal outcomes.

QUT is well known for our strong links to industry and government, and our interdisciplinary teams create high-impact research in areas as diverse as climate change mitigation, digital media, materials science and biomedical innovation.

Our Vision

With a commitment to enhancing the staff and student experience and doubling Indigenous enrolments over the next five years, *Connections*— the QUT Strategy 2023 to 2027 – is a bold plan to transform the learning experience.

Our strategy establishes QUT as ‘the university for the real world’, and charts our provision of transformative education, student experiences, and research that is relevant to our communities.

The strategy connects aspiration to opportunity for our students and staff, it expands pathways for our Indigenous Australian students, and it builds supportive research environments.

QUT will also develop a curriculum transformation approach that responds to demand from students to support their journey from high school to graduation and beyond and reinforces the value of professional connections within the curriculum.

QUT Values and Priorities

Aligned to and supporting our vision are the QUT Values:

- Ambition
- Curiosity
- Inclusiveness
- Innovation
- Integrity
- Academic Freedom

Underpinned by our Priorities:

- Creativity and entrepreneurship
- Health and wellbeing
- Inclusion and social justice
- Recognising and fostering Indigenous Australian excellence
- Sustainability and the environment

About the Faculty

In our rapidly changing world, driving economic, social and cultural development increasingly requires collaboration. The Faculty of Creative Industries, Education and Social Justice acknowledges this context— and specifically that how society learns, creates, communicates and collaborates is at the forefront of all innovative and impactful contributions.

The Faculty’s purpose is to create inclusive, ethical and sustainable change for a just world. We do this through collaborations within thriving interdisciplinary and diverse communities that connect our teaching, learning and research to deliver real world change.

With an intersection of creativity, education and social justice combined with QUT’s overall focus on technology the Faculty has strong ties to government and industry which provides our courses with a real- world focus. The Faculty prepares our students for innovative roles as knowledge leaders at the nexus of design, education, communication, creative practice and social change. We pursue research with impact, and our researchers collaborate on projects in specialised research groups and facilities across disciplines and institutions.

The Faculty of Creative Industries, Education and Social Justice is led by the Executive Dean and the Faculty Executive team comprising the Executive Dean, Deputy Dean, Heads of School, Associate Dean Learning and Teaching, Associate Dean Research, and Faculty Operations Manager.

The faculty is comprised of the following Schools under the leadership of the respective Head of School:

- School of Communication
- School of Creative Practice
- School of Design
- School of Early Childhood and Inclusive Education

- School of Teacher Education and Leadership
- School of Justice

In addition, specialist Faculty professional functions include

- Faculty Operations: Budget and Planning, School Administration Support, Space, Equipment and Assets, and Technical Services teams under the leadership of the Faculty Operations Manager
- Office of the Deputy Dean: Engagement, and Student Specialist Support under the leadership of the Deputy Dean
- Office of the Executive Dean under the leadership of the Executive Dean

About the Australian Research Council (ARC) Centre of Excellence for Automated Decision-Making & Society (ADM+S)



About the ADM+S Centre

The rapid expansion of automated decision-making enabled by technologies such as machine learning has great potential benefits, while it also creates serious new risks to human rights and welfare. Potential harms range from data discrimination against disadvantaged communities to the spread of disinformation for political and commercial ends. Increasing inequality, lower productivity and diminished economic security have been highlighted as risks in the coming decade.

The ARC Centre of Excellence for Automated Decision Making and Society (ADM+S) is a cross-disciplinary, national research centre, which aims to create the knowledge and strategies necessary for responsible, ethical, and inclusive automated decision-making. Funded by the Australian Research Council from 2020 to June 2027, ADM+S is hosted at RMIT in Melbourne, Australia, with nodes in eight other Australian universities including QUT. The Centre brings together leading researchers in the humanities, social and technological sciences in an international industry, research and civil society network. Its priority domains for public engagement are news and media, transport, social services and health.

ADM+S Commitment to Equity, Diversity and Inclusion

Equity, diversity, and inclusion are integral to the ADM+S Centre's mission: to create knowledge and strategies for responsible, ethical, and inclusive automated decision-making (ADM). The Centre recognises that racism, sexism, homophobia, transphobia, and ableism are principal obstacles to equity, diversity and inclusion, and remain primary causes of injustice and inequality. We believe that responsible, ethical, and inclusive ADM can deliver broad social benefits, including reducing inequalities for disadvantaged and vulnerable groups. Women, Aboriginal and Torres Strait Islanders, the LGBTIQ+ community, people living with disability and those from a culturally and linguistically diverse background, are strongly encouraged to apply.