Curtis Murray (he/him)

Data Scientist
PhD Candidate
Husband
Father-to-be

▸ Adelaide/Melbourne

Languages

R 6 yrs

Python 3 yrs.

Skills

Data science 4 yrs.

Statistics 4 yrs.

Data visualisation 4 yrs.

Data cleaning 4 yrs.

Natural Language Processing 3 yrs.

Machine learning 3 yrs.

Deep learning 1 yrs.

Biography

Data scientist/statistician/applied mathematician with 4+ years of experience delivering data-driven insights through machine learning models and statistical analysis. I love to learn new things and to find the perfect data visualisation that explains model results to simplify complex ideas. I am currently finalising my PhD in applied mathematics at the University of Adelaide. While I finish my PhD, I work as a research assistant where I provide value to a diverse team of health-care researchers through natural language processing of adverse event reports. I also currently enjoy working as a teaching assistant for undergraduate and postgraduate courses in mathematics, statistics, and data science. I have previously had the pleasure of working as a tutor in the first-year mathematics help room, which aligns with my passion for finding elegant ways of communicating complex concepts. In 2019 I graduated with a First Class Honours in Mathematics (Statistics) from The University of Adelaide, and was awarded a University Medal.

My passion for problem-solving flows into my day-to-day life through my hobbies. While I always enjoy trying something new, the two hobbies I always maintain are rock climbing and photography. Rock climbing engages the creative, problem-solving regions of my brain, as the right sequence of moves and body positioning must be executed to finish the climb.

I am capable of delivering data-driven analysis through machine learning to yield actionable insights to meet specified needs.

Work experience

PhD candidate in Applied Mathematics   2020 - 2022 (Expected)
School of Mathematical Sciences
The University of Adelaide

Natural language processing to reveal patient-reported experiences by uncovering latent structure from unstructured social media data using state-of-the-art methods in topic modelling. A culmination of modern techniques in machine learning and traditional methods in statistical analysis both yield powerful results that are easily understood and disseminated to the benefit of non-technical audiences with specific and relevant domain knowledge. A reproducible framework was developed to generalise the analysis to alternative sources with consistency.

Research Assistant   2021 - 2022
The University of Adelaide

Producing a monitoring tool to detect when a medical device should be recalled through adverse event report data. The project involves data scraping, cleaning, modelling, visualisation, dashboarding, and communication of concepts to non-technical domain experts.

Teaching Assistant   2019 - 2022
School of Mathematical Sciences
The University of Adelaide

Marking assignments and improving communication skills through seeing different communication styles and what is effective.

Mathematics Tutor   2019
School of Mathematical Sciences
The University of Adelaide

Developing communication skills to convey complex ideas to match the audience's understanding.

Interests

- Rock Climbing
- Photography
- Running
- Cooking

References

Assoc. Prof. Lewis Mitchell

Associate Professor in Mathematics

The University of Adelaide

lewis.mitchell@adelaide.edu.au

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Prof. Mark Mackay

Professor in Health Care Management

James Cook University

mark@completethepicture.com.au

+61 405 063 259

Dr. Simon Tuke

Senior Lecturer in Mathematics

The University of Adelaide

simon.tuke@adelaide.edu.au

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Contact

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- +61 413 453 827

Education

PhD in Applied Mathematics — 2020 - 2022 (Expected)

The University of Adelaide

First Class Honours in Mathematics (Statistics) — 2019

The University of Adelaide

- GPA 7.0 of 7.0
- University Medal

Bachelors in Mathematics (Pure Mathematics) — 2015-2018

The University of Adelaide

- Executive Dean's Recognition for Academic Excellence

High School — 2013

Trinity College

- ATAR: 98.45

Publications

- Murray, C., Mitchell, L., Tuke, S., Mackay, M. (2021). Symptom Extraction from the Narratives of Personal Experiences with COVID-19 on Reddit. ICWSM. https://doi.org/10.36190/2021.71

Conferences/Talks

- "Symptom Extraction from the Narratives of Personal Experiences with COVID-19 on Reddit." 7th International Workshop on Mining Actionable Insights from Social Networks. Special Edition on Mental Health and Social Media. 2021

- "Harnessing patient experiences from social media: a pilot study using COVID-19 data from Reddit". HealthData21. 2021. Talk available at https://www.youtube.com/watch?v=rBQgyKYSjLA.

- "Covid symptom extraction". Digital Health Live: Future Digital Health Leaders | Emerging South Australian Talent. 2020.

- School of Mathematical Sciences talks at the University of Adelaide

Awards and Prizes

- Winning team of Hackathon, awarded $20,000, Queensland AI Hub, 2020

- University Medal, The University of Adelaide, 2019

- First Class Honours with perfect GPA, 2019

- Executive Dean's Recognition for Academic Excellence, 2018

8th June 2022

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Curtis Murray