

TOBIN SOUTH

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✉ North Adelaide, South Australia

in tobin-south

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EDUCATION

Masters of Philosophy in Applied Mathematics and Data Science

The University of Adelaide 📅 2019-2020

Research into the flow of information within the news ecosystem on social media. Developing tools to identify and diagnose echo-chambers and misinformation. Several additional research projects beyond the scope of my research, with a keen interest in collaborating diversely.

Valedictorian - Bachelor of Mathematical and Computer Sciences

The University of Adelaide 📅 2016 - 2018

Active member of several societies while studying above normal course load to make the most of my time at University. Majoring in Statistics and Applied Mathematics with additional courses in Computer Science and Economics. Awarded Academic Excellence in Economics, School of Computer Science Ingenuity Award and Valedictorian of the graduating class of Mathematics, Computer Science and Electrical Engineering.

COMMUNITY & VOLUNTEERING

Leader in Design and Engineering Practical Team

📅 2017 - 2020 ~ Project leader working with students to create robots and develop new skills. Additional roles as Treasurer (2019) and Director of People and Culture (2020). Oversaw \$30,000 budget.

Postgraduate Representative - School of Mathematical Sciences

📅 2020 ~ Representing students through the COVID crisis.

Treasurer & Founding Member of Women in STEM Society

📅 2017-2019 ~ A society helping change the culture of men and women in STEM to broaden inclusivity.

President of Adelaide University Mathematics Society

📅 2018 ~ Formerly Vice-President, coordinating sales logistics and events management.

PROFESSIONAL DEVELOPMENT

Analysis of South Australian Labour Markets

📅 2020 ~ Collaboration with the MIT Living Lab and SA Government.

AI in Healthcare Hackathon Winner

📅 2020 ~ Data driven on-boarding and informed consent for patients of diverse backgrounds and languages.

Submission to Senate Select Committee on the Future of Work and Workers

📅 2018 ~ Called to provide opinion to the Committee on behalf of Australian Institute of Machine Learning.

Summer School - UNSW Sydney - AMSI Funded

📅 2019

Australian Optimisation Competition Team

📅 2017

Winning team in quantum computing competition, QxBrach

📅 2017

PUBLICATIONS

- South T, Roughan M, Mitchell L. Popularity and Centrality in Spotify Networks: Critical transitions in eigenvector centrality. Submitted to EPJ Data Science.
- M Roughan, L Mitchell, T South. How the Avengers assemble: Ecological modelling of effective cast sizes for movies. Plos one 15 (2), e0223833
- T Pond, S Magsarjav, T South, L Mitchell, JP Bagrow. Complex contagion features without social reinforcement in a model of social information flow. Entropy 22 (3), 265
- A Nguyen, T South, N Bean, J Tuke, L Mitchell. Podlab at SemEval-2019 Task 3: The Importance of Being Shallow. Proceedings of the 13th International Workshop on Semantic Evaluation, 292-296

WORK EXPERIENCE & INTERNSHIPS

AI / NLP Consultant - Brainframe

📅 2019-2020 ~ My work specialises in building solutions with natural language processing (NLP) and large scale online data sources. Working with a team of consultant AI experts to deliver custom machine learning driven products to a diverse base of clients.

Startup Co-founder - ClearerConsent

📅 2020 ~ Healthcare technology start-up using digital tools to reinvent the informed consent process. With a mission to help Australians of diverse backgrounds to understand healthcare on their own terms.

Intern at Data To Decisions - Sentiment Model Development

📅 2019 ~ Worked on developing a machine learning sentiment model to predict emotions in text conversations for the SemEval 2019 International Workshop Task 4. Scored in the top 5% of finalists. Paper published: "The Importance of Being Shallow"

Summer Researcher - Data-Driven Network Analysis of Spotify Music

📅 2018 ~ Data collection and analysis of a large complex network of artists collaborations using Python. Categorisation models and network based predictive models for musical success developed. Funded by Australian Mathematical Sciences Institute Summer Research Scholarship.

Team Leader for Computer Vision Controlled Robotic Chessboard Project

📅 2017 ~ Coordinated an interdisciplinary team of students developing a mechanical, AI driven chessboard using computer vision processing and convolutional neural networks for machine learning classification problems. Developed in affiliation with the Australian Center for Robotic Vision.

Data Analysis from Twitter to analyze #selfie

📅 2016 ~ Python and twitter API's to access large data sets and perform statistical analysis and visualisation using R.

CONFERENCE TALKS AND PUBLIC LECTURES

Conference Talks and Posters

- 6th International Conference on Computational Social Science, MIT, Poster (2020)
- 16th Workshop on Algorithms and Models for the Web Graph, Talk (2019)
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- 4th Annual Australian Social Network Analysis Conference (2019)
- AMSIConnect, Talk (2017) - *Best Student Presentation*

Public Lectures

- "The Mathematics of Deepfakes" - AUMS Lecture Series (2019)
- "From Lil Wayne to Mozart: Network Dynamics in Spotify" - Undergraduate Lecture (2018)
- Australian Centre for Excellence in Mathematics and Statistics Retreat (2019)

TEACHING

- Temporary Lecturer - Foundation of Computer Science (2019)
- Tutor - Professional Practice (2020)
- Lab Instructor - Mathematics for Data Science (2019)
- Tutor - Foundations of Computer Science (2018 -19)

OTHER AWARDS AND PERSONAL DEVELOPMENT

- Academic Excellence in Economics - International Financial Institutions and Markets
- Ingenuity Award - School of Computer Science - Chess Playing Robot
- Rotary Youth Leadership Development Camp
- AI Ethics Bookclub
- Long Distance Running - Including Barossa Marathon. Plans to push harder and run further.