

MAX DAVY

☎ +61 429 319 270 ✉ max.davy98@gmail.com

I enjoy tackling difficult problems complicated by a range of possible approaches, technical complexities, and interdisciplinary teamwork. I am driven by curiosity and pursue excellence in **academics, professional work, communication, leadership** and **research projects**, as reflected in the corresponding sections below.

ACADEMICS

University of Sydney

2017-2020

- Bachelor of Science (Advanced Mathematics) (Honours) - expected completion: December 2020.
- Majors: Mathematics and Computer Science; focus in data science, optimisation, algorithm design and statistics.
- **Weighted Average Mark: 92.9/100** (85 is High Distinction); Academic Merit Prize (top 0.8% of students)
- John Coutts Honours Scholarship for **highest grades in Applied Mathematics**; Dean's List for Excellence.
- K.E. Bullen Scholarship for proficiency in Applied Maths; 1st in Course, Discrete Optimisation.
- Full undergraduate scholarship, St. Paul's Full Residential Scholarship, offered UNSW Co-op Scholarship
- Two years of **law school** with a Distinction average - Foundations, Torts, Contracts, Public Law.

Technical University Berlin (TUB) (Exchange)

2018-2019

- Focus on decision science & mechanism design: **100%** in Game Theory & Economics and Computation.
- Received a Sydney Mobility Scholarship, and an Exchange Scholarship awarded by TUB.

Sydney Grammar School

2011-2016

ATAR: 99.90 (top 0.1% in Australia), Headmaster's Prize for Special Contribution to the School
10th in Australia in National Chemistry Olympiad; 2nd in NSW for Latin Extension

PROFESSIONAL EXPERIENCE

Incoming Product Analyst, Atlassian

Start February 2021

- I will support decision-making and product improvement through analysis, modelling, and experimentation.
- I was offered one of two graduate positions for this role.

Behavioural Data Scientist, Commonwealth Bank Australia Limited

July 2020-current

- I am working as a data science specialist in the research arm of the Behavioural Economics team at CBA.
- My project is on relating financial vulnerability to changes in consumer behaviour during COVID-19, with an emphasis on developing meaningful and predictive quantitative characterisations of both these concepts.

Associate Data Scientist, Commonwealth Bank Australia Limited

Nov 2019-July 2020

- I worked in the AI Labs, developing a Python toolkit to diagnose unwanted bias in a complex AI system.
- I championed a contextual approach, telling the story of the final observed biases. This was validated by Australian National University experts in a 3-day workshop which I organised.
- I have engaged in activities such as a pro-bono project at The Smith Family and presenting a talk on the skills from competitive debating applicable to a analytics role.

Business Analyst, Partners in Performance Pty Limited

2017

- Worked on-site in a management consulting project, researching Software as a Service (SaaS) Enterprise Resource Planning (ERP) tools and conducting interviews with clients.
- Shadowed change management, client employee training, and idea generation sessions.

CAPABILITIES

Languages	English (native), German (basic), Latin (reading), Australian Sign Language (learning)
Programming	SQL, Python (numpy, sklearn, pandas, visualisation), R, MATLAB, Java
Tools	Linux OS & command-line interfaces, git, productivity tools (MS Office & Outlook)
Modelling	(Un)supervised learning, Deep Learning, Linear Programming, Time Series Analysis, Causal Inference, Scientific Computing, Complex Networks, Game Theory, explainable AI

TECHNICAL PROJECTS AND RESEARCH

I engage in reading groups on computational machine learning, data science, ethical AI and algorithms.

Westmead Children's Hospital

- Health economics project on cost-effectiveness of introducing a new diagnostic method for epilepsy in infants.
- Built and managed database, and performed statistical analysis of results. Communicated results to doctors.

Deep Learning Hardware Acceleration

- Researching accuracy-preserving acceleration of neural network training using low-precision calculations.
- Co-author on paper submitted to CVPR 2019, and first author on survey submitted to ACM Computing Surveys.

Behavioural Economics & Game Theory

- Investigated behavioural economics model for predicting human response in laboratory game-theory experiments.
- I was invited back by my TUB professor as an External Visiting Researcher in multi-agent systems.

COMMUNICATION SKILLS

Debating Coaching 2017-current

- I have been coaching for 4 years, at Sydney Grammar (2nds coach), James Ruse, and currently Scots College.
- I teach current affairs, economics and social issues, and develop critical thinking and argumentation skills.
- I have a strong personal focus on improving teamwork, and the skill of giving and receiving feedback.

Academic Tutor 2019-current

- I tutored Introduction to AI in 2019, a 3rd-year subject surveying methods in machine learning.
- I recently tutored the advanced class of Data Structures and Algorithms in 2020.

Debating and Public Speaking 2012-current

- Competitive debating for 9+ years, including the Australian Intervarsity Championships
- Victorian Models United Nations representative (2018) and several law moots

LEADERSHIP AND VOLUNTEERING EXPERIENCE

Societies

- SUMS (Maths Society): I helped with winning a \$2500 Student Life Grant, and volunteered with social media.
- I gave presentations for maths students on election manipulation & graphical methods for causal inference.

Mentorship

- I led a group of first-years in developing a brain-machine interface via time series analysis of EEG readings.
- Currently mentoring talented high-school students interested in machine learning.

PERSONAL ACTIVITIES

Investment Club	Collaboratively managed 15000AUD on ASX
Performing Arts	Law Revue Crew Manager & won National Concert Band Championships
Sport	NSW Cross-Country running representative & GPS Athletics
Painting	My goal for the year is to get back into painting!