# Daniel Braun

Sydney, Australia
✉: daniel@braun.com.au

## EDUCATION

**University of Sydney** — Australia
B.S. Advanced Studies (Honours) (Computer Science) — Feb 2021–(Expected Nov 2021)

- 1$^{st}$/405 students: Natural Language Processing (COMP5046).

- 2$^{nd}$/294 students: Deep Learning (COMP5329).

- Thesis: Reinforcement Learning with Linear Temporal Logic Objectives.
  Supervisors: Sasha Rubin and Rafael Oliveira.

**University of Wollongong** — Australia
B.S. Mathematics (Advanced): Accelerated program including research projects — Feb 2011–Nov 2013

- Spring 2013 Project: Generalising the Zappa-Szép Product.
  Supervisor: David Robertson. Grade: 88.

- Autumn 2013 Project: Exploring Bounded Operators in Normed Vector Spaces.
  Supervisor: Nathan Brownlowe Grade: 91.

**Caringbah Selective High School** — Australia
Higher School Certificate — 2009

## EXPERIENCE

**AI Safety Camp** — Online
Research Participant — Jan 2021–May 2021

- Project: Understanding reinforcement learning agents using generative
  visualisation. Paper in progress.

**NukkAI** — France
Research Engineer — Jun 2019–Jan 2021

- Research and application of symbolic AI methods (in particular, Inductive
  Logic Programming) in the game of Bridge.

- Lead developer of NuTrain: a Bridge training tool
  (https://www.youtube.com/watch?v=bAcSPhQzmGI).

- Developed a tool which combines logical deduction and tree search to produce
  automated commentary for Bridge card play.

**TCCS** — Australia
Data Scientist/Machine Learning Engineer — Feb 2017–Jun 2019

- Co-founded the group and developed several successful predictive sports
  models, some of which are still used in production today.

- Led a small team in creating and managing databases, data scrapers, and other
  software tools and libraries to support model development and production.

- Won the 2020 AFL Betfair VIP Tipping Competition over a field of 3000+
  invite-only participants.

**Self-Employed** — Australia
Card Player — 2009–2017

- Poker: Professional online and live play.

– Bridge: Represented NSW and Australia on various junior teams (Under 21 and Under 26). Best results; 1st - U21 Asia Pacific Championships 2011, 9th - U26 World Championships 2016.

## PUBLICATIONS

[1]  V. Ventos, **D. Braun**, C. Deheeger, *et al.*, "Construction and Elicitation of a Black Box Model in the Game of Bridge", Manuscript submitted for publication, 2020. arXiv: 2005.01633 `[cs.AI]`.

## SKILLS

- **Full stack development:** Python, SQL, Prolog, JS
- **Machine Learning:** Symbolic and Numeric methods

## LANGUAGES

- **English:** Mother tongue
- **French:** Basic conversational

## REFEREES

Available on request.