# Matthias Dellago

#### **Publications**

**Characterising 0-day exploit brokers**, *Matthias Dellago, Daniel Woods, Andrew Simpson*, Workshop on the Economics of Information Security, 2022.

Note: Invited to present findings to Google Chrome Security Team.

**Exploit brokers and offensive cyber operations**, *Matthias Dellago, Daniel Woods, Andrew Simpson*, The Cyber Defense Review, 2022.

**Formalising attack trees to support economic analysis**, *Andrew Simpson, Matthias Dellago, Daniel Woods*, The Computer Journal, 2022.

### Awards and Recognitions

2023-2024 **Long Term Future Fund Grantee**, *Effective Altruism Fund*, Technical Al-alignment research: A new approach to mechanistic interpretability of attention.

### Experience

- Currently **Guest Researcher**, *Institute for Machine Learning*, Johannes Kepler University Linz. Interpretability of attention weight decay and sparsity.
- Winter 2023 **Guest Researcher**, *Amsterdam Machine Learning Lab*, University of Amsterdam. Interpretability of attention, and new interpretable architectures.
  - 2021-2022 **Researcher**, *Information Security and Privacy Lab*, University of Innsbruck. Joint Project with Oxford University: Combining Exploit Market Data with Attack Trees.
    - 2020 Instructor of Undergraduate Mathematics for Economics Exercise Class, Department of Statistics, University of Innsbruck.
- Summer 2018 Lab Assistant, Institute for High Energy Physics, Austrian Academy of Sciences.

  Measured and approved detectors for use at CERN.
  - 2018 Teaching Assistant for Introductory Physics Course, University of Vienna.

#### Education

- Currently Master's Thesis with Erasmus Scholarship, Amsterdam Machine Learning Lab.
- June 2023 ML Alignment Theory Scholars Program, Stanford Existential Risks Initiative.
  Wentworth Track: 6-week workshop on Al-risks, problem solving and scientific writing.
  - 2022 **Exchange Program**, *Vrije Universiteit Amsterdam*. Software reverse engineering and machine learning on graphs.
- 2020-Present **Computer Science Master's Studies**, *University of Innsbruck*. Focus on machine learning and information security.
  - 2019-2020 **Physics Master's Studies**, *University of Innsbruck*. Focus on adiabatic quantum computation. Switched to computer science in 2020.
  - 2015-2019 **Physics BSc**, *University of Vienna*.

    Designed and built a cloud chamber to win a competition for muon (cosmic ray) detection.

2007-2015 **Gymnasium**, *Krottenbachstraße*, Vienna. English-German bilingual high school. Graduation with perfect score.

## Languages

German Native

English Near-Native

French Maladroit

Other Interests

Competed in swimming, triathlon, cross country skiing and judo. Currently also mountaineering. Drumming, literature, history.