

# GIULIO STARACE

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## EDUCATION

### MSc Artificial Intelligence

University of Amsterdam

Current GPA: 8.33

Amsterdam, The Netherlands

September 2021 - 2023 (ongoing)

- Current thesis direction: Natural language interfaces for minimizing reward hacking In Reinforcement Learning
- Topics of note: Machine Learning, Deep Learning, Natural Language Processing, Information Retrieval, Reinforcement Learning

### ABC Summer School - Computations in Consciousness and Perception

University of Amsterdam

Amsterdam, The Netherlands

June 2022

- 2-week full-time computational neuroscience programme. Developed Project proposal available at [giuliostarace.com/ltm](https://giuliostarace.com/ltm).

### BSc Hons. in Natural Sciences (Physics & Computer Science)

Durham University

GPA: First-Class Honours

Durham, UK

October 2016 - July 2019

- Topics of note: Statistics, Vector Calculus, Linear Algebra, Thermodynamics, Quantum & Particle Physics, Databases, Algorithms and Data-structures, Cryptography and Information, Compiler Design, Operating Systems, Computer Vision

## EXPERIENCE

### University of Amsterdam - AIRLab

Part-time Researcher (Research Assistant)

Amsterdam, The Netherlands

April 2022 - October 2022

- Cross-lingual adaptation of large language models (LLMs). Continuing for MSc. Code: [github.com/thesofakillers/claficle](https://github.com/thesofakillers/claficle)

### ESO - European Southern Observatory

Research Engineer

Cerro Paranal, Chile

September 2020 - September 2021

- Worked on high-resolution forecasting of Astronomical Seeing using Machine Learning methods.
- Ran preliminary ARIMA-based approach before moving to LSTM neural networks.
- Led the development of a unified data processing and evaluation pipeline: [pypi.org/project/nowcastlib](https://pypi.org/project/nowcastlib)

Software Engineering Intern

August 2019 - January 2020

- Designed, developed, tested and deployed a system for displaying information from the observatory's several ticket systems in unified and personalized way via Microsoft Graph API.

### Video.io - startup

ML Engineer

Remote, Anywhere

February 2020 - June 2020

- Worked on implementing abstractive summarization of dialogic video. (Pandas, Google Cloud Speech API).
- Real time speech to text captioning of live video streams (NodeJS Streams, FFmpeg, HLS/DASH video).
- Revamped full-stack of internal experimental website (NodeJS, GraphQL, PostgreSQL, Docker, NGINX, React).

### JAXA - Japan Aerospace Exploration Agency

Research Intern

Sagamihara, Japan

August 2018 - October 2018

- Developed software to estimate visibility of satellite given orbit simulation and thermal constraints.
- Performed multi-parameter regression on ro-vibrational dataset so to characterize starburst galaxy NGC253.

## PUBLICATIONS AND PERSONAL PROJECTS

- van der Togt et al., *[Re] Badder Seeds: Reproducing the Evaluation of Lexical Methods for Bias Measurement*, 2022. ReScience C 8, #40. [10.5281/zenodo.6574704](https://doi.org/10.5281/zenodo.6574704).
- **GPTrue or False** Browser extension showing the likelihood that given body of text was generated by OpenAI's GPT-2.
- **iclingo** Jupyter Kernel for answer set programming with clingo.
- **bLANS** Tool for converting sane-LaTeX to ANS-flavoured LaTeX and viceversa.

## MISCELLANEOUS QUALITIES

### Languages

English (Fluent), Italian (Fluent), Spanish (Professional)

### Programming Languages

Python, Javascript, SQL, C/C++, HTML/CSS

### Libraries

NumPy, PyTorch, Pandas, Huggingface, matplotlib, OpenCV, statsmodels, sklearn

### Frameworks and Specs

NodeJS (Express), GraphQL, React, Protocol Buffers

### Technologies

Vim, Git, tmux, VSCode, ssh, L<sup>A</sup>T<sub>E</sub>X, FFMPEG, Docker

[giuliostarace.com](https://giuliostarace.com) [github.com/thesofakillers](https://github.com/thesofakillers) [linkedin.com/in/giuliostarace](https://linkedin.com/in/giuliostarace)