# GIULIO STARACE

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## EXPERIENCE

**ESO - European Southern Observatory**                                    Cerro Paranal, Chile
Research Engineer                                                     *September 2020 - Present*
- Working on high-resolution forecasting of Astronomical Seeing using Machine Learning methods in collaboration with Microsoft Research and EY Metric Arts.
- Ran preliminary ARIMA-based experimentations.
- Currently working on Deep Learning LSTM approach.

Software Engineering Intern                                       *August 2019 - January 2020*
- Part of the newly formed Info & Knowledge Management Team, tasked with technical side.
- Designed, developed, tested and deployed a system for displaying information from the observatory's several ticket systems in a unified and personalized manner via Microsoft Graph API.

**Video.io - startup**                                                         Remote, Anywhere
ML Engineer                                                       *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)
- Revamping backend and devOps for internal experimental website (NodeJS, GraphQL, PostgreSQL, Docker, NGINX) with a little exposure to frontend (React)

**JAXA - Japan Aerospace Exploration Agency**                              Sagamihara, Japan
Summer Intern                                                     *August 2018 - October 2018*
- Part of LIRA (Laboratory for InfraRed Astrophysics)
- Developed software to estimate visibility of satellite given simulated orbits and thermal constraints
- Performed data-analysis, particularly multi-parameter regression, on ro-vibrational dataset in an attempt to characterize starburst galaxy NGC 253

## PERSONAL PROJECTS

**GPTrue or False**                                                            *November 2019*
- Determine the likelihood that given body of text was generated by OpenAI's GPT-2 model in your browser.
- Featured on digitaltrends.com, lifehacker.com, techthelead.com and others; 100+ stars, 10+ forks on GitHub.
- Tweeted about by Tesla AI director Andrej Karpathy, and Javascript creator Brendan Eich.

## EDUCATION

**BSc Hons. in Natural Sciences (Physics & Computer Science)**                  Durham, UK
Durham University                                               *October 2016 - July 2019*
- Natural Sciences degree allows candidates to take modules from selected departments
- BSc Project with *P&G*: exploring methods for simulating wear-induced dry abrasion in clothes.
- Achieved First-Class Honours

## MISCELLANEOUS QUALITIES

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| **Languages** | English (Fluent), Italian (Fluent), Spanish (Professional) |
| **Programming Languages** | Python, Javascript, SQL, C/C++, HTML/CSS |
| **Frameworks and Specs** | NodeJS (Express), GraphQL, React, Hugo, Protocol Buffers |
| **Libraries** | NumPy, Pandas, matplotlib, TensorFlow, PyTorch, OpenCV, statsmodels, sklearn |
| **Technologies** | Vim, Git, VSCode, ssh, Latex, FFMPEG, Docker |