



# Gianluca Truda

**MSc student in Artificial Intelligence at VU Amsterdam**

I'm a Data Scientist with a background in Computer Science and Genetics. My research interests are the Quantified Self, Personalised Medicine, and Generative Modelling.

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## WORK EXPERIENCE

### **VU Amsterdam:** *Research Assistant*

Oct 2020 - Dec 2020

Supporting clinical decisions in the rehabilitation of patients with Covid-19. A joint project with the CLTC lab and the Amsterdam UMC to bring NLP (BERTje) and time series techniques together for processing electronic medical records of Coronavirus patients.

*Reference: [On request]*

### **DataProphet:** *Junior Data Scientist* [🔗](#)

Feb 2019 - July 2019

Both descriptive- and prescriptive- analytics on terabytes of vehicle telematics data for an international client.

GPS denoising using GeoHash system, dimensionality reduction with PCA and UMAP, unsupervised learning models on geomatic and industrial process data.

Extensive use of AWS EC2 and S3, PostgreSQL, and Apache Airflow.

*Reference: [On request]*

## EDUCATION

### **Vrije Universiteit Amsterdam:** *MSc Artificial Intelligence*

2019 - 2021

GPA to date: 8.6 / 10

Courses include Deep Learning, Computer Vision 1 (UvA), Machine Learning for the Quantified Self, Data Mining Techniques, Evolutionary Computing, Multi-Agent Systems, Knowledge Representation and Reasoning, Neural Models of Cognitive Processes.

### **University of Cape Town:** *BSc (Hons) Computer Science*

2015 - 2018

3-year BSc in CS and Genetics followed by 1-year Honours in CS.

Top student in the Honours class (tied, 82% aggregate).

Only CS Honours student invited to present research at the departmental open evening. [🔗](#)

5-month research project (86%, top of class) that used supervised learning and evolutionary algorithms on real-world medical data and found novel techniques for anticoagulant dosing. [🔗](#)

## LANGUAGES

**Python** - Outstanding

**SQL** - Highly proficient

**HTML, CSS** - Highly proficient

**LaTeX** - Highly Proficient

**JavaScript** - Proficient

**Bash** - Proficient

## TOOLS

**Pandas** - Outstanding

**Scikit-learn** - Outstanding

**Git** - Highly Proficient

**iPython/Jupyter** - Highly proficient

**NumPy** - Highly Proficient

**Matplotlib** - Highly proficient

**AWS tools** - Proficient

**PyTorch & Keras** - Adept

## SOFT SKILLS

**Public speaking** - Outstanding

**Technical Writing** -

Outstanding

**Interpersonal Skills** - Highly proficient

**Research** - Highly proficient

**Organisation** - Highly proficient

**Leadership** - Proficient

**Scrum (Agile)** - Adept

Member of AI and Crypto society (CryptoSoc), Developer Society (DevSoc), Mathematics Society (MamSoc), and Effective Altruism (EA).

A volunteer tutor for the Maths Enrichment Programme and a committee member of the Wine Society (over 650 members).

## PROJECTS [↗](#)

### **CoVital:** *AI-driven phone pulse oximetry for Covid-19 detection* [↗](#)

2020

Blood oxygen levels are an important metric for diagnosing and managing respiratory infections like Covid-19. This project aimed to make this available to every smartphone owner by inferring oxygenation levels from subtle changes in the colour of a user's finger (placed over the camera). [↗](#)

I joined the project in March 2020 and was one of the top contributors to the codebase. [↗](#)

I extended my work as part of a university project to apply confidence estimation techniques to deep learning models on this dataset. I made major contributions to processing pixel data into PPG curves, noise reduction techniques, time- and frequency- domain feature engineering, and data augmentation. [↗](#)

### **Warfit-learn:** *A machine learning toolkit for reproducible research in warfarin dose estimation* [↗](#)

2018 - 2020

Warfarin is a life-saving drug that requires individualised dosing. Currently, this dosing is determined by human experts, which is expensive and error-prone. Published in the Journal of Biomedical Informatics. [↗](#)

This is a Python 3 library — with full scikit-learn/pandas interoperability and multithreaded resampling functions — that enables easy training and evaluation of ML solutions to warfarin dosing.

The code is packaged and published to PyPI: `pip install warfit-learn` [↗](#)

### **Bit of a Tangent:** *A podcast where two aspiring rationalists explore mind-bending ideas from science, philosophy, AI, and medicine* [↗](#)

2019 - 2020

Co-creator and co-host, producing 30 episodes to date, including:

012 How Deep Learning Does Magic [↗](#)

018 Mental Models 1: How To Have Better Ideas and Improve Your Thinking [↗](#)

023 Are Brains Just Neural Nets? [↗](#)

025 Self-Supervised Machine Learning: Introduction, Intuitions, & Use-Cases [↗](#)

### **Quantified Sleep:** *A pilot Quantified Self study to predict sleep quality from health, location, and lifestyle factors* [↗](#)

2020

### **PCA-Vis:** *An interactive tool for exploring principal components* [↗](#)

2019

My older projects can be found at [gianlucatruda.wordpress.com/projects](http://gianlucatruda.wordpress.com/projects) [↗](#)

## KNOWLEDGE

**Supervised Learning** - Highly proficient

**Data Analytics** - Highly proficient

**Feature Engineering** - Highly proficient

**Data Structures** - Proficient

**Big Databases** - Proficient

**Functional Programming** - Proficient

**Unsupervised Learning** - Proficient

**Encryption** - Proficient

**Parallel Computing** - Proficient

**Reinforcement Learning** - Adept

## ACHIEVEMENTS

### **Winning Prototype** |

Avicenna Health hackathon, 2020 [↗](#)

### **Vice Chancellor's**

**Scholarship** | UCT, 2015

**National Public Speaking Champion** | NIDPSC, 2013

**Top 15 in National Computer Programming Olympiad** | SACO, 2013

## WORKFLOW

**Python 3.5+** on **macOS** or

**Linux** (Ubuntu, Raspbian)

**iTerm2** with customised **Bash** environment

**VS Code** or **Vim** with Python extensions

**Markdown** or **LaTeX** for documentation