



# Dominika Długosz

Double-Degree ELLIS PhD Student

## CONTACT

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## LANGUAGES

Polish	● ● ● ● ●
English	● ● ● ● ●
French	● ● ● ● ●
German	● ● ● ● ●

## PROGRAMMING LANGUAGES

Python with:

NumPy SciPy scikit-learn

PyTorch matplotlib seaborn

pandas PyQt5

Basics of:

MATLAB TypeScript Java

## SOFTWARE SKILLS

MS Office

LaTeX

Version Control (Git)

Linux (CentOS)

## EDUCATION

### Double-Degree PhD Student

Instituto Superior Técnico & University of Granada

📅 Sep 2025 – Present

📍 Lisbon, Portugal / Granada, Spain

- Research area: deep Neural Network architectures for explainable dual-process computation.
- Anticipated graduation: Aug 2029

### MSc Artificial Intelligence

University of Aberdeen

📅 Sep 2019 – Sep 2020

📍 Aberdeen, Scotland, UK

- Dissertation: Multi-Modal Deep Transfer Learning for Business Signals Detection in Social Media Communications.
- Distinction (First Class Honours)

### BSc Biomedical Engineering

Łódź University of Technology

📅 Sep 2014 – Feb 2018

📍 Łódź, Poland

- Dissertation: ECG Signal Analysis for Troponin Level Assessment and Coronary Artery Disease Detection.
- Excellent (First Class)

## EXPERIENCE

### Scientific Programmer

Well ID

📅 Aug 2023 – Dec 2025

📍 Stavanger/Trondheim, Norway

- Analysis and visualisation of well logging data, also in real time.
- Orchestration of multi-modal data collection from a hand-held core scanner device and subsequent data analysis.
- Development of a Python package for creating data files in the DLIS standard.

### Junior Fellow

CERN

📅 Nov 2020 – Apr 2023

📍 Geneva, Switzerland

- Development of a Python suite for commissioning of LHC and SPS after Long Shutdown II.
- Bunch profile analysis in the LHC, SPS, ELENA, and AD.
- Creation of user interfaces for hardware configuration and data acquisition.
- Technical coverage for Machine Development sessions.

# PROJECTS

## DLIS Writer

### Well ID

📅 Aug 2023 – Dec 2025

- Creating an open-source Python package for writing DLIS files.
- [github.com/well-id/dliswriter](https://github.com/well-id/dliswriter)

## MiRNA normalisers for cancer research

### Łódź University of Technology

📅 Feb 2018 – Jul 2018

- Analysis of miRNA data for early tumour diagnosis.

## The North Sea Race Endurance Exercise Study

### University of Stavanger

📅 Jun 2016 – Feb 2018

- Analysis of ECG and blood biomarker data for studying physiological effects of endurance exercise and non-invasive detection of cardiac events.

## Interdisciplinary Design Thinking Project

### Łódź University of Technology

📅 Feb 2016 – Jun 2016

- Developing solutions for improving cycling experience in the city of Łódź.

# HOBBIES

Swing dancing

Hiking & paragliding

Knitting & crocheting

Music & singing

## Data Science Intern

### DeepMiner

📅 Jun 2020 – Aug 2020

📍 Aberdeen, Scotland, UK

- Developing a multi-modal deep learning system for assessing business relevance of customised web search results.
- Industrial collaboration for MSc dissertation.

## Demonstrator

### University of Aberdeen

📅 Sep 2019 – Apr 2020

📍 Aberdeen, Scotland, UK

- Assisting in undergraduate Python programming tutorials.

## Technical Student

### CERN

📅 Sep 2018 – Aug 2019

📍 Geneva, Switzerland

- Development of a Python suite for commissioning of LHC and SPS after Long Shutdown II.
- Analysis of LHC fill data across Run II (2015–2018).

## Biomedical Data Science Intern

### University of Stavanger

📅 Jun 2016 – Sep 2016

📍 Stavanger, Norway

- Feature extraction from ECG signals.
- Unsupervised ML analysis of ECG data from 1000 participants of the North Sea Race.

# SELECTED PUBLICATIONS

- Długosz, D., et al. "SPS & LHC setting-up tools using Python." (2022).
- Timko, H., ... Długosz, D., et al. (2019). LHC Longitudinal Beam Dynamics During Run II. *Proc. 9th Evian workshop*.
- Długosz, D., et al. (2018). ECG Signal Analysis for Troponin Level Assessment and Coronary Artery Disease Detection: The NEEDED Study 2014. *FedCSIS*.
- Długosz, D., et al. (2018). The North Sea Bicycle Race ECG Project: Time-Domain Analysis. *JAMRIS*.

# AWARDS

- **Center for Responsible AI research grant**  
awarded by INESC-ID, Lisbon, in relation to pursuing PhD research, 2020
- **The Data Lab Scholarship**  
scholarship programme for MSc in Artificial Intelligence at the University of Aberdeen, 2019
- **II Award in Best Bachelor of Engineering Thesis**  
at the Faculty of Electrical, Electronic, Computer, and Control Engineering, Łódź University of Technology, Poland, 2018
- **Best Paper Award**  
at DS-RAIT'17, FedCSIS 2017, for the paper *The North Sea Bicycle Race ECG Project: Time-Domain Analysis*, Prague, Czechia
- **Łódź University of Technology Rector Scholarship**  
in academic years: 2015/16, 2016/17, and 2017/18