Dominika Długosz

CONTACT

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Lisbon, Portugal

LANGUAGES

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

PROGRAMMING LANGUAGES

Python
with:

- NumPy
- SciPy
- Scikit-learn
- TensorFlow
- matplotlib,
- pandas
- PyQt5

MATLAB

basics of: C++, Prolog, Lisp

SOFTWARE SKILLS

MS Office
LaTeX
Version control tools (Git)
Operational systems:
Windows, Linux (CentOS)

EXPERIENCE

Double-Degree PhD Student

- **Instituto superior Técnico, University of Lisbon, Portugal & University of Granada, Spain**
  Sep 2025 - present

Research area: Deep Neural Network Architectures for Explainable Dual-Process Computation

Scientific Programmer

- **Well ID AS, Stavanger/Trondheim, Norway**
  Aug 2023 - present

Analysis and visualisation of well logging data.
Development of a Python package for creating data files in the DLIS standard.

Junior Fellow

- **CERN, Geneva, Switzerland**
  Nov 2020 - Apr 2023

Developing Python scripts for commissioning of the two largest accelerators - LHC and SPS - after Long Shutdown II.
Bunch profile analysis in the LHC, SPS, ELENA, and AD.
Creating user interfaces for hardware configuration and data acquisition.

Data Science Intern

- **DeepMiner, Aberdeen, Scotland, UK**
  Jun 2020 - Aug 2020

Developing a multi-modal deep learning system for relevance assessment of customised web search results.
Industrial collaboration for writing a final dissertation for MSc in Artificial Intelligence at the University of Aberdeen.

Demonstrator

- **University of Aberdeen, Scotland, UK**
  Sep 2019 - Apr 2020

Assisting in undergraduate Python programming tutorials.

Technical Student

- **CERN, Geneva, Switzerland**
  Sep 2018 - Aug 2019

Developing Python scripts for commissioning of LHC and SPS.
Analysis of LHC fill data across Run II (2015-2018).

PROJECTS

DLIS Writer

- **Well ID, Stavanger/Trondheim, Norway**
  Aug 2023 - Present

Creating an open-source Python package for writing data files in the DLIS format.

MiRNA normalisers for cancer research

- **Łódź University of Technology and Medical University of Łódź, Poland**
  Feb 2018 - Jul 2018

Analysis of miRNA data for early tumour diagnosis.

The North Sea Race Endurance Exercise Study

- **University of Stavanger, Norway**
  Jun 2016 - Feb 2018

Analysis of ECG, sports watches, and blood biomarker data collected from participants of the 2014 North Sea Race.

Interdisciplinary Design Thinking Project

- **Łódź University of Technology, Poland**
  Feb 2016 - Jun 2016

HOBBIES

Swing dancing

Hiking and paragliding

Knitting and crocheting

Music and singing

EDUCATION

MSc Artificial Intelligence

- **University of Aberdeen, Scotland, UK**
  Sep 2019 - Sep 2020

Dissertation:
Multi-Modal Deep Transfer Learning for Business Signals Detection in Social Media Communications.

Final mark: First Class Honours (Distinction).

BSc Biomedical Engineering

- **Łódź University of Technology, Poland**
  Sep 2014 - Feb 2018

Dissertation:
ECG Signal Analysis for Troponin Level Assessment and Coronary Artery Disease Detection.

Final mark: Excellent (First Class)

Erasmus+ International Exchange Semester

- **University of Twente, Netherlands**
  Feb 2017 - Jul 2017

AWARDS AND SCHOLARSHIPS

Project DIXcover research grant

awarded by INESC-ID, Lisbon, in relation to pursuing the PhD research

The Data Lab MSc 2019

Scholarship programme for MSc in Artificial Intelligence at the University of Aberdeen

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 the 4th Doctoral Symposium on Recent Advance in Information Technology (DS-RAIT'17), FedCSIS 2017, for the paper *The North Sea Bicycle Race ECG Project*: *Time-Domain Analysis*, Prague, Czech Republic (2017)

Łódź University of Technology Rector Scholarship

in academic years: 2015/16, 2016/17, and 2017/18

SCIENTIFIC PUBLICATIONS

- **Długosz, D.**, J. Egli, G. Hagmann, P. Baudrenghien, B. Bielawski, H. Timko, S. Novel Gonzalez, and A. Butterworth. "SPS & LHC setting-up tools using Python." (2022).
- Timko, H., Argyropoulos, T., Baudrenghien, P., Calaga, R., **Długosz, D.**, et al. (2019). LHC Longitudinal Beam Dynamics During Run II. In Proc. 9th Evian workshop, Evian, France.
- **Długosz, D.**, Królak, A., Eftestøl, T., , Ørn, S., Wiktorski, T., Oskal, K. R. J., Nygard, M. (2018, September). ECG Signal Analysis for Troponin Level Assessment and Coronary Artery Disease Detection: The NEEDED Study 2014. In 2018 Federated Conference on Computer Science and Information Systems (FedCSIS) (pp. 1065-1068). IEEE.
- **Długosz, D.**, Królak, A., Eftestøl, T. C., Ørn, S., Wiktorski, T. (2018, March). The North Sea Bicycle Race ECG Project: Time-Domain Analysis. In Journal of Automation, Mobile Robotics and Intelligent Systems (JAMRIS) No. 01, 2018 (pp. 23-32).