

# Piotr Antoniak

0044 07512056719 | [pedroantoniak@gmail.com](mailto:pedroantoniak@gmail.com) | [linkedin](#) | [github](#)

## EXPERIENCE

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### MacroPrudential Policy Trainee

2022 – Present

*European Central Bank*

*Germany*

- Development of a model that allows to simulate thousands of scenarios and test multiple parallel constraints (solvency, leverage, liquidity) of Eurozone banks. It utilizes exposures to interest rates, sovereign bonds, industries (NACE) and unconventional monetary policy. The entire project is over 10k lines (with me being the major contributor) written in MATLAB and Python. Model's results are included in bi-yearly ECB's MacroPrudential Report and presented in front of all EuroArea Central Banks Financial Stability/MacroPrudential representatives;
- Fulfilled ad-hoc data requests from Supervisory, Granular Interest Rates Databases and Bloomberg Terminal using SQL and Bloomberg API.

### Financial Services Business Model Development Praktikum

2021 - 2022

*BMW; references*

*Germany*

- Developed proof-of-concept of a search and retrieval system for internal data drive and confluence page;
- Participated in development and deployment of a fraud detection model covering an entire continent - over 80 000 new customers yearly;
- Developed ML model and deployed it as a proof-of-concept for Customer Feedback division. It was trained to classify both sentiment and type of incoming feedback and was an improvement in terms of capabilities and accuracy over previously used rule based model;
- Built a few dashboards/simple pages using streamlit/flask serving as a GUI for ML models.

### Hospitality Services

2017 – 2020

*Aberystwyth University*

*United Kingdom*

- Part time job in hospitality – barista, bartender, kitchen porter. One year in charge of the evening kitchen.

## EDUCATION

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### Pompeu Fabra University and Universitat Autònoma de Barcelona

Barcelona, Spain

*Master's Degree in Macroeconomic Policy and Financial Markets*

*2020 – 2021*

*Thesis: Predictive power in online investing chatter.*

*8/10*

### Aberystwyth University

Aberystwyth, United Kingdom

*Bachelor's Degree in Economics*

*2017 – 2020*

*Thesis: Evaluation of the post-crisis monetary policy in the USA using Taylor rules.*

*First class*

## PROJECTS

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### Open Domain Question Answering; working demo | *python, torch, streamlit*

- A tool that can answer questions using documents given to it.

### Simple chatbot from scratch | *python, torch, flask*

- A simple chat bot that uses predefined question-answer pairs;
- It's simplicity is based on the fact that extending usage is just a matter of updating a .csv file.

### Predictive power in online investing chatter | *python, tensorflow, torch, pandas, data streams*

- My Master Thesis.
- I investigated millions of comments on investing/trading forums in order to extract sentiment and check whether users retail traders are so unskilled as claimed by various studies.

### GPT-2 twitter bot mimicking Central Banks speeches | *python, torch, scrapping, twitter API, Docker, AWS*

- A Twitter Bot based on GPT-2 further pre-trained on speeches from major Central Banks.

## KEY WORDS FOR YOUR SCRAPER

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- **Languages:** Python, MATLAB, SQL
- **Libraries:** pandas, numpy, matplotlib/seaborn, pytorch/tensorflow, scikit-learn, scipy, pymc
- **Tools:** Git, Amazon Web Services, MS Office, Bloomberg API
- **Statistics/Econometrics/ML/AI:** Generalized Linear Models, Random Forests, Boosting, SVM, LSTM, RNN, ConvNets, Transformers, MLP, Explainable-AI, Causal Inference, Time Series

## OTHER

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- Triathlete
- Mentor at DeepLearning.ai
- T Maelgwyn Davies Prize - Best Economics Dissertation (Aberystwyth, June 2020)
- Experience trading alternative assets (2017-2018) and options (2019-2020)