Mateusz Syrek

Physics & Data Analytics Graduate

M.Syrek1@icloud.com

07983504255

Bedford, United Kingdom

https://syrekgmr.github.io

Profile

As a physics and data analytics graduate, I possess a wide set of problem-solving and analytical skills which, coupled with technical knowledge of both computer science and physics prove excellent for a position within data science and machine learning. My ability to learn and adapt quickly was an invaluable trait upon switching fields from physics to data analytics, where I was able to quickly learn many of the concept used in graduate-level computer science. While creative in finding solutions, I remain realistic in projecting workflow pipelines, structuring a project to meet both deadlines and final goals. With the experience of working in a large company, I know how to communicate information efficiently across different departments.

Education

2019 – 2020: MSc Data Analytics, University of Warwick

- A predicted 1st classification, currently awaiting the final dissertation grade.
- During my master's dissertation project, I specialised in exploring various optimisation algorithms used in training machine learning models. This allowed me to explore different sub-fields of machine learning from computer vision to natural language processing, where I had to implement state-of-the-art models and optimisers for testing and comparison using novel visualisation methods to illustrate high-dimensional parameter spaces.
- Beyond the high-level theories seen in machine learning, I have also explored low-level concepts fundamental to computer science, exploring areas such as system memory and computer security, allowing me to work with low-level languages such as C++.

2016 – 2019: BSc Physics, University of Warwick

- Upper second (2:1) classification.
- During module selection I favoured mathematical and computer-based modules, allowing me to develop my numeracy and statistical skills to a high level, providing me with a bridge into data analytics.
- My final year project saw me heavily involved with particle physics, using Python to develop pipelines for processing data from the Large Hadron Collider at CERN. This was done to facilitate the simulation of particle interactions in a search for signatures which may indicate physical phenomena beyond the currently accepted Standard Model.

2011– 2016: GCSEs and A-Levels, Sharnbrook Upper School

- A levels: Physics, Mathematics and Chemistry (AAA)
- GCSEs: IT (Distinction *), Additional sciences (A), Mathematics Higher Tier (A), English Language (B), English Literature (B), Geography (B), Religious Studies (B), Expressive Arts (B), Business Studies (C).

Skills

Programming Languages

- Python (4+ Years)
  - PyTorch
  - TensorFlow
  - Sklearn
  - Scipy
  - Flask / FastAPI
  - Pandas
  - OpenCV / Pillow
  - Apache Spark (PySpark)
- C++ (2+ Year)
  - Python Extensions
  - PyBind11
  - Neural Networks
  - Large-Scale Computation
- JavaScript (1 Year)
  - ReactJS
  - D3.js
  - HTML/CSS animation
  - Visualisation
- R (1 Year)
  - Statistical Analysis
  - Data Visualisation
  - Database Pipelines
- HTML/CSS (2 Years)
  - Web Development
- SQL (1 Year)
  - MySQL
  - PostgreSQL

Technical Skills

- Machine Learning
  - Deep Learning
  - Computer Vision
  - NLP
  - Time Series
  - Reinforcement Learning
  - Linear Algebra
  - Numerical Optimisation
  - Data Mining
  - Model Deployment
  - Statistical Modelling

Mateusz Syrek

Physics & Data Analytics Graduate

M.Syrek1@icloud.com

07983504255

Bedford, United Kingdom

https://syrekgmr.github.io

Employment

2014 – present: Various roles, Park Inn by Radisson Bedford/ Mercure by Accor

- For the past six years, alongside my studies I have maintained a part-time position at a local hotel, undertaking various roles from front-of-house duties dealing directly with customers to back-office tasks including event planning and coordination. During my time there, the hotel saw a takeover by the Accor brand, after which I was able to maintain my position under new management.
- As part of a diverse, cross-departmental team I quickly learned how to take the initiative when required and when to follow the lead of others if this benefitted the team. All this has permitted me to develop my teamworking and leadership skills in a professional environment.

2017 – 2020: Physics Tutoring

- During my time at the University of Warwick, I was involved with the Physics society in providing free tutoring services for students in the lower years, aiming to teach content which I tackled the year before. This highlighted to me the importance of effective and clear communication when attempting to convey advanced concepts and ideas, proving beneficial as it allowed me to develop methods of succinct and effectual communication.

Projects

Gradient Descent Optimisation

- Dissertation project evaluating novel optimisation algorithms found in academia, looking to gauge their performance across machine learning models from various fields such as NLP and computer vision.

Neural Network Sudoku Solver

- Data processing pipelines extract a sudoku grid from an image and proceed in using a convolutional neural network to identify each digit within the grid, returning a solved puzzle.

Analysing the Impact of Covid19

- A research project investigating the hospitality industry throughout the Covid19 pandemic, utilising time-series forecasting to measure its global impact.

PyTorch Object Tracker

- A PyTorch implementation of an algorithm for tracking identified objects across video frames, aiming to achieve good performance and framerate with efficient data stream pre-processing.

A more comprehensive overview can be found on my website.

Skills

- Computer Science
  - Algorithms
  - Data Structures
  - Computer Security
  - Computer Architecture
  - Database Management
- Services
  - AWS
  - Google Cloud
  - Docker
  - Git
  - MongoDB
- Physics
  - Particle Physics
  - Quantum Mechanics
  - Differential Calculus
  - Computational Physics
- Operating Systems
  - Windows
  - Linux

Languages

- English (Fluent)
- Polish (Fluent)