Pawel Safuryn

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EDUCATION

UNIVERSITY OF EDINBURGH
MEng (Hons) Mechanical Engineering
Grad. Jul 2017 | Edinburgh, UK
First Class Honours

UPENN, USA
Exchange student
Aug 2014 - May 2015 | Phila., PA
Cum. GPA: 3.84 / 4.00
Dean's List Honours

NUAA, CHINA
Summer Exchange
Jul 2014 | Nanjing, Jiangsu
Chinese language and culture

HIGH SCHOOL NO 3
IB Bilingual Diploma
Grad. May 2012 | Gdynia, Poland
Maths HL: 7/7
Physics HL: 7/7

COURSES

COURSERA
Deep Learning Specialization:
Neural Networks and Deep Learning
Hyperparameter Tuning
Structuring Machine Learning Projects
Convolutional Neural Networks
Sequence Models
Machine Learning by Stanford

DATACAMP
Data Scientist with Python track:
Statistical Thinking
Python Data Science Toolbox
SQL for Data Science
Supervised and Unsupervised Learning
Data Visualisation

UNIVERSITY
Computational Fluid Dynamics
Numerical and FE Methods
Nonlinear Dynamics and Chaos

SKILLS

PROGRAMMING
Python • Matlab/Octave • C/C++
SQL • LaTeX • Linux • Git

PYTHON LIBRARIES
numpy • pandas • matplotlib
h5py • scikit-learn • keras

LANGUAGES
English • Polish • Spanish (DELE B1)

EXPERIENCE

ROLLS-ROYCE
Compressors Manufacturing Capability Acquisition
Nov 2018 – Present | Derby, UK

- Led a visual inspection project aiming to automate fan blade bond line inspection using commercially-available machine learning software.
- Engaged with relevant stakeholders, drafted business case, and defined project scope and plan.
- Secured research funding and worked with a research institution to deliver initial viability study for the system. This involved processing vast amounts of historical inspection data and drafting suitable validation strategy.

High Performance Computing
Jun 2018 – Nov 2018 | Derby, UK

- Developed data extraction and analysis frameworks for benchmarking High Performance Computing (HPC) platforms.
- Designed the system architecture, planned for implementation of the project, built and tested the software, and demonstrated its use by benchmarking Rolls-Royce's existing HPC platforms.
- Tools used included Python and its most popular scientific libraries, as well as C and Message Passing Interface (MPI).

Future Technologies Group
Sep 2017 – Feb 2018 | Derby, UK

- Conducted Computational Fluid Dynamics (CFD) analysis of a radial compressor impeller with supercritical CO_2 as a working fluid.
- Created suitable thermodynamic models, and described compressor performance in the presence of "real gas" effects using CFD simulations.
- Developed Patent Analysis software tool in Python to aid Intellectual Property teams with analysing large amount of patents.

DEM SOLUTIONS | EDEM Engineering Support
Oct 2016 – Dec 2016 (part time), Jan 2016 – Jun 2016 | Edinburgh, UK

- Completed a 6 months long placement as a part of my university degree and continued to provide engineering support part time for 3 more months.
- Utilised EDEM, a Discrete Element Method software, to set up, run and post-process bulk material simulations.
- Introduced custom physics models by using EDEM application programming interface and standard C++ scripting.
- Performed software physics testing and quality assurance of the product.

PROJECTS

PANIC EVACUATION MODELLING | MEng Individual Project
Sep 2016 – Apr 2017 | Edinburgh, UK

- Implemented an appropriate agent-based model in OpenFOAM, tested its predictive capabilities and investigated various panic evacuation scenarios.
- Used C++ to implement physics governing the agent motion and modify other solver algorithms like agent-wall interactions or path finding.
- Performed detailed verification of the code, calibrated the simulation parameters and validated the model against experiments.
- Learnt Python commands necessary to process data about walls and borders and visualise them using Python shell in ParaView.

EXTRACURRICURALS

Nov 2018	Made Peer Reviewer for Turbo Expo 2019 Conference
2012-2019	Edinburgh University and RR Tennis Clubs