

Pawel Safuryn

<http://safurynp.weebly.com>
safurynp@gmail.com | +44 7598 497834

EDUCATION

UNIVERSITY OF EDINBURGH MENG (HONS) MECHANICAL ENGINEERING

Exp. May 2017 | Edinburgh, UK
Avg. grade: 76% (1st class)

UPENN, USA

EXCHANGE STUDENT

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

NCAA, CHINA

SUMMER EXCHANGE, MANUFACTURING TRAINING

Jul 2014 | Nanjing, Jiangsu
CNC lathes and milling machines
Laser cutting and electric discharge
machining

HIGH SCHOOL NO 3

IB BILINGUAL DIPLOMA

Grad. May 2012 | Gdynia, Poland
Maths HL: 7/7
Physics HL: 7/7

COURSEWORK

GRADUATE LEVEL

Computational Fluid Dynamics
Numerical and FE Methods
FEM for Solids and Structures
Nonlinear Dynamics and Chaos
Dynamics 5 (Impact and Shockwave)

UNDERGRADUATE LEVEL

Fluid Mechanics 2-4
Dynamics 1-4
Engineering Thermodynamics
Heat and Mass Transfer
Solid Mechanics
Engineering Project Management

SKILLS

PROGRAMMING

Matlab • C++ • Python • \LaTeX • VBA
Linux • Git • Arduino microcontroller

ENGINEERING SOFTWARE

CAE:
OpenFOAM • Star-CCM+
COMSOL Multiphysics • Abaqus
CAD:
Rhino3D • Solid Edge • SolidWorks

LANGUAGES

English • Polish • German (beginner)

EXPERIENCE

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 basic C++ scripting.
- Created a "What is Discrete Element Method" course for prospective clients and delivered it live in a webinar format.
- Introduced standard physics tests for the company's software and performed quality assurance of the product.

ROLLS-ROYCE | ENGINEERING INTERN IN THE FAST MAKE TEAM

Jun 2016 - Sep 2016 | Derby, UK

- Collaborated with design, manufacturing and integration leads to collect information about the design of a high pressure turbine (HPT) manifold.
- Organised the data in a concise form to serve as a standard for designing future demonstration engines and to aid decision-making by management.
- Observed the lifecycle management of the HPT manifold from the concept design, through fluid and thermal analysis, to the final assembly.
- Improved and automated a database of suppliers using VBA in Excel.

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 basic Python commands necessary to process data about walls and borders and visualise them using Python shell in ParaView.

DELTA WING IN WAVES | COMPUTATIONAL FLUID DYNAMICS

Nov 2016 | Edinburgh, UK

- Using StarCCM+ software, investigated the effect of head waves on drag and lift coefficients of a submerged delta hydrofoil.
- Defined and optimised the simulation domain and mesh pattern, performed detailed uncertainty study and validated the numerical results.
- Explored different approaches to modelling waves, e.g. Volume of Fluid (VOF) method or setting a time and space dependent velocity field.

MICROFLUIDICS | MECHANICAL ENGINEERING DESIGN LABORATORY

Mar 2015 | Philadelphia, PA

- Developed understanding of low Reynolds number flows in small channels.
- Performed particle image velocimetry experiments and compared the results to theoretical predictions and COMSOL Multiphysics simulations.

SOCIETIES

2012-2017 Edinburgh University Lawn Tennis Club

2012-2014 Edinburgh University Young Scientific Researchers Association