NICK CALVERT

https://github.com/ncalvertuk/ ⋄ ncalvertuk@gmail.com ⋄ www.ncalvert.uk

WORK EXPERIENCE

Senior Research Scientist
Nuclear Medicine Group Christie NHS Foundation Trust, Manchester, UK. *2017 - 2019*
Working on a large EU collaborative project, performing data analysis in Python and optimising algorithms for image reconstruction/processing. Collaborated with a number of hospitals in Europe to perform a large data analysis study based on 3D printed phantoms aimed at optimising a novel type of cancer therapy.

Scientist Engineer
Rapiscan Systems Ltd, Cargo Division, Stoke on Trent, UK. *2009 - 2011 & 2015 - 2017*
I worked on radiation-based security systems, writing data analysis algorithms in MATLAB and performing Monte Carlo simulations in C++. I also worked on a prototype metal detection system, implementing and testing reconstruction and classification algorithms in MATLAB.

Graduate Internship Sponsored by VCIPT
Tracerco and University of Manchester, Manchester, UK. *2009*

EDUCATION

PhD, Radiation Physics
University College London, UK *2011 - 2015*
Title: *Time-of-Flight X-ray Compton Scatter Imaging*
Supervisors: Prof. R.D. Speller & Dr. M.M. Betcke
Brief abstract: I worked on developing a novel x-ray imaging system, implementing reconstruction and data analysis algorithms in MATLAB and simulations using C++. During my PhD I collaborated on side-projects with AWE and LightPoint Medical focused on different imaging techniques.

MRes, Security Science
University College London, UK *2011 - 2012*
Dissertation Title: *Feasibility Study of Time-of-Flight X-ray Compton Scatter Imaging*

MMath, Mathematics
University of Manchester, UK *2005 - 2009*
Dissertation Title: *Gamma Tomography Reconstruction*

SKILLS

- Team working in small teams, including working with team members in a different country, and collaborations with members of different universities and hospitals.
- I have strong communication skills, having published a number of peer-reviewed publications and presented at international conferences, giving both invited and proferred talks.
- Monte Carlo modelling using GEANT4, a toolbox implemented in C++. I organised a GEANT4 workshop at Rapiscan Systems Stoke-on-Trent for their Physics group.
- I have over 10 years of experience coding in MATLAB for a wide range of Mathematical applications focusing on Data Analysis, Algorithm Development, and Inverse Problems/Linear Algebra.
- During my previous role at the Christie I developed my Python coding skills, with a focus on data analysis and curve fitting using NumPy and SciPy. I have continued to develop my Python skills, with a focus on Data Science and Machine Learning using Pandas, scikit-learn, and fast.ai.
- To extend my knowledge I have also started to learn to code using the Julia language, including using the MLJ Machine Learning package. For version control I use GitHub and have also published code on the blog on my website.