

James Black

Software Developer

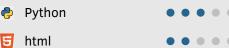
PhD Candidate, Durham University

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Languages/Tools —



•	GNO DITIULIIS	
<u>_</u>	Dython	



Soft Skills -

00	Problem Solving	•	•	•	•	•
	Organisation	•	•	•	•	•
*	Public Speaking	•	•	•	•	•
•	Communication	•	•	•	•	
	Creativity	•	•	•	•	•
4	Leadership	•	•	•	•	

Projects

REDonFDTD Key Tools: C++, C++17, CMake, Qt, Travis View it on GitHub!

C++ program which numerically propagates Electromagnetic fields produced by relativistic point charges; built using CMake, with a Qt GUI providing real-time visualisation with Gnuplot.

Education

Postgraduate Training

2016 – 2020 **PhD in Physics** Institute for Particle Physics Phenomenology, Durham Development of High Energy Jets (HEJ) in C++, added subleading logarithms to improve theoretical predictions for the LHC, CERN.

2019 – 2020 **MCnetITN3 Short Term Studentship** University of Lund, Sweden Utilise HEJ as developed above as a C++ library to add its predictions to that of another program developed in Lund.

Undergraduate Study

2011 – 2016 Theoretical Physics, MPhys ($\emptyset 1, 0$) **Durham University**

One year spent on exchange at Queen's University, Ontario

Master Thesis (83) Supervisor: Dr. Jeppe Andersen The Application of the Finite-Difference Time-Domain Method To

Problems in Relativistic Electrodynamics

Summer 2015 Summer Studentship **Edinburgh University**

Validated and cleaned C++ code used to make predictions for the LHC.

Teaching Experience

2018 - now Foundations of Physics 3A **Durham University** Third Year Quantum Mechanics, Nuclear and Particle Physics.

2017 - 2018 **Introduction to Programming** Python 3: from absolute basics up to finishing a self-encompassing project, for example: a moon landing simulation.

2016 – 2017 **Presentation Skills Durham University** Delivered a course on how to read your audience and avoiding common pitfalls when presenting work.

Outreach Work

2018 – 2019 **Event Manager** Pint of Science, Durham

Managed three scientific outreach events with nearly 100 attendees from conception to completion

2017 – 2019 Web Developer

Pint of Science, Durham Managed and developed web presence for events.

2017 - now Institute for Particle Physics Phenomenology **Presenter**

Integral member of Modelling the Invisible team.

Skill Development

2017 - 2018 Middle Common Room President University College, Durham University Elected representative for a student body of over 500 for 2017-2018. Managed a small committee of ten dealing with H&S, social, welfare and financial issues which organised roughly five events per week, including a large scale ball with a budget of £20,000

2016 – 2017 Middle Common Room Secretary University College, Durham University Responsible as a liason between the common room, the college and the central university. Also maintaining the common room website: www.castlemcr.co.uk

May 26, 2020 **James Black**