William GRANT

1 Contact Details

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2 Education

2016-   **PhD in Physics, University of Cambridge**
Funded by the Centre for Doctoral Training in Computational Methods
Title: Structural Analysis of Proteins Using Community Detection

2016   **MPhil in Scientific Computing, University of Cambridge**
Funded by the Centre for Doctoral Training in Computational Methods
Class: Distinction

2015   **Part III (MSci) in Physics, University of Cambridge**
Specialisation: Quantum Field Theory and Quantum Condensed Matter
Master's Project: C++ Modelling of Explosive Epidemics
Class: I

2014   **BA in Natural Sciences, University of Cambridge**
Class: I

3 Industrial Experience

SUMMER 2018   **Placement, Bell Labs UK**
A data science placement using a set of item co-purchases in a supermarket, along
with the set of ingredients in each item, to build an ingredient co-occurrence network.
By characterising this network, I aimed to quantify the gap between previous
models and actual consumption. This project used Python, and the Pandas/NumPy/SciPy
stack. The focus was on parsing and simplifying the raw data in a transparent and
reproducible way.

SUMMER 2016   **Consultancy, University of Cambridge (Freelance)**
I was tasked to generate an interactive visualisation for the Materials Department,
using d3.js. I built a dendrogram linking the set of researchers to their research
topics in order to show the department's areas of focus, and emphasize departmental
colloborations.

SUMMER 2014   **Internship, HMG**
This software engineering internship involved the refactoring of a large existing Hadoop
codebase to reduce technical debt and allow for more effective use of data. This project
used Java, along with MapReduce (Hadoop).

SUMMER 2013   **Internship, BAE Systems Detica**
As an intern in a QA team, I helped to generate automated unit and system tests for a
new version of a large Java codebase for a telecoms client.

4 Academic Experience

PAPERS	Revealing and exploiting hierarchical material structure through complex atomic networks. S. E. Ahnert, **W. P. Grant**, C. J. Pickard *NPJ Comp. Mat.* (2017)
	Modular decomposition of protein structure using community detection **W.P. Grant** and S.E. Ahnert, *Journal of Complex Networks* (2018)
ORAL PRESENTATIONS	Complex Networks, Lyon (2017)
	SLCU Seminar Series, Cambridge (2018)
	CompleNet, Boston (2018)
	CompleNet, Tarragona (2018)
POSTERS	Sam Edwards Conference, Cambridge (2017)
	Cambridge Networks Day, Cambridge (2017)
	IUPAB Congress, Edinburgh (2017)
	Protein Folding, Evolution and Interaction, Cambridge (2017)
	Physics of Living Matter, Cambridge (2017)
	CompleNet, Boston (2018)
	Cavendish Research Day, Cambridge (2018)
	ComplexNetworks, Cambridge (2018)
PRIZES	Senior Scholar, Trinity College
	Best Poster Slam Award (2 minute talk), CompleNet 2018
TEACHING	Supervisor (Small-group teaching) for Part 1A (First Year) Physics, 2017-2018
	Supervisor for Part II (Third Year) Advanced Quantum Physics and Quantum Condensed Matter, 2016-2017
	Demonstrator (Teaching assistant) for Atomistic Modelling, 2019

5 Extra-Curriculars

HACKATHONS/CONFERENCES	Winner of the Quantum Black Machine Learning Challenge, HackCambridge 2017
	Demonstrated at HackOxford, 2018 Winner of Best Domain, HackCambridge 2019
	Member of the organising committee, Complex Networks 2018 Volunteer, Research Software Engineer Conference 2017
JUDO	Half Blue
WATER POLO	Full Blue Computer Officer, 2015/16 Sponsorship Officer, 2013/14 Men's Secretary, 2012/13
OTHERS	Member of the system administration team for the Theory of Condensed Matter Group, 2016-Present
	Co-chair of the Biological and Statistical Physics Discussion Group, 2016-2018 Website Designer/Secretary for Trinity College Field Club 2014/15