James Graham

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EDUCATION

UNIVERSITY OF OXFORD
MSc in Mathematical and Theoretical Physics
Distinction
June 2017 | Oxford, UK
Pembroke College

NORTHWESTERN UNIVERSITY
BS in Applied Mathematics
summa cum laude
March 2016 | Evanston, IL, USA
McCormick School of Engineering and Applied Science

HUMBOLDT-UNIVERSITÄT ZU BERLIN
July-August 2015 | Berlin, Germany
Humboldt Winter and Summer University

LINKS

Personal://**jngraham.com**
Github:// **jngraham**
LinkedIn:// **j-graham**

SKILLS

PROGRAMMING
Competent:
C++ • MATLAB • Mathematica
Python • LaTeX
Basic:
Java • R • Shell • HTML • CSS

LANGUAGES
Conversant:
Russian • German
Basic:
Spanish

COURSE PROJECTS

UNIVERSITY OF OXFORD | Non-Perturbative Methods in Quantum Field Theory
March-April 2017 | Oxford, UK
- Simulated a U(1) lattice gauge theory using C++;
- Extracted physical quantities from data using MATLAB and Excel.

NORTHWESTERN UNIVERSITY | Architectural Engineering and Design Studio
Sept.-Dec. 2015 | Evanston, IL, USA
- Distilled client's needs from project brief;
- Synthesized a house design concept for a site on Northwestern's campus;
- Constructed a detailed scale model of house and environs.

RESEARCH

NORTHWESTERN UNIVERSITY | Research Assistant
March 2014-Jan. 2015 | Evanston, IL, USA
- Simulated a Hodgkin-Huxley neural network using Python to investigate correlation of voltage spikes in presence of periodic stimulus;
- Created tools in Python and Mathematica to record and analyze simulation data in order to compare to theoretical results;
- Publication to be submitted.

NORTHWESTERN UNIVERSITY | Research Assistant
April-Sept. 2013 | Evanston, IL, USA
- Integrated memory cortex model into simulation of signal decorrelation in olfactory bulb using MATLAB;
- Investigated how memories affect survival of synapses;
- Publication to be submitted.

TEACHING

NORTHWESTERN UNIVERSITY | Teaching Assistant, Department of Mathematics
Sept. 2015-March 2016 | Evanston, IL, USA
- Presented problems and led weekly discussion sections in single- and multivariable calculus;
- Invigilated and marked weekly quizzes and three exams per term.

NORTHWESTERN UNIVERSITY | Tutor, Integrated Science Program
Sept. 2015-March 2016 | Evanston, IL, USA
- Held three hours of tutoring per week;
- Assisted students with work ranging from problem sets to successful grant proposals.

AWARDS

2016	Outstanding Graduate Prize in Applied Mathematics	Top graduate in my department
2016	Roger Boye Oxbridge Bursary	Supporting study at Oxford
2014	Summer Research Opportunities Award	Supporting research June-Sept. 2014
2013	Merck Index	Top student in organic chemistry