

## James Graham

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### Education

<b>University of Oxford</b> , Oxford, UK	2017
MSc Mathematical & Theoretical Physics, Distinction	
<b>Northwestern University</b> , Evanston, IL	2016
BS Applied Mathematics, summa cum laude	

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### Experience

<b>Instructor</b> , Mathnasium of Mount Vernon, Alexandria, VA	Dec. 2017–Feb. 2018
<ul style="list-style-type: none"><li>○ Taught students topics from elementary through high school in a small group setting;</li><li>○ Managed individualized workflows of several students simultaneously;</li><li>○ Enthused students in mathematics by relating my experiences to theirs</li></ul>	
<b>Non-Perturbative Methods in Quantum Field Theory</b> , University of Oxford	Mar.–Apr. 2017
<ul style="list-style-type: none"><li>○ Simulated a U(1) gauge theory with C++;</li><li>○ Implemented the Metropolis algorithm;</li><li>○ Extracted physical quantities from correlation functions with MATLAB and Excel.</li></ul>	
<b>Architectural Engineering and Design</b> , Northwestern University	Sept.–Dec. 2014
<ul style="list-style-type: none"><li>○ Synthesized a design concept for a model site to satisfy client's needs;</li><li>○ Constructed detailed scale model of house and environs;</li><li>○ Pitched my solution to a panel of architects and engineers.</li></ul>	
<b>Research Assistant</b> , Engineering Science & Applied Mathematics, Northwestern University	Mar. 2015–Jan. 2015
<ul style="list-style-type: none"><li>○ Simulated Hodgkin-Huxley neurons using the BRIAN package in Python;</li><li>○ Investigated synchronization of neural firing in presence of periodic stimulus.</li></ul>	
<b>Research Assistant</b> , Engineering Science & Applied Mathematics, Northwestern University	Apr.–Sept. 2013
<ul style="list-style-type: none"><li>○ Integrated memory cortex model into simulation of signal decorrelation with MATLAB;</li><li>○ Investigated synapse survival through stimulation by memories</li></ul>	
<b>Tutor</b> , Integrated Science Program, Northwestern University	Sept. 2015–Mar. 2016
<ul style="list-style-type: none"><li>○ Held office hours once per week for three hours;</li><li>○ Assisted ISP students with work ranging from problem sets to grant proposals.</li></ul>	

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### Leadership

<b>Lead Instructor</b> , Mathnasium of Mount Vernon, Alexandria, VA	Feb.—Nov. 2018
<ul style="list-style-type: none"><li>○ Assemble and manage curriculum for more than 100 students;</li><li>○ Prepare progress reports to share students' learning with parents;</li><li>○ Manage instruction and administrative tasks in a team of 9 instructors;</li><li>○ Coordinate training for new instructors.</li></ul>	
<b>Social Secretary</b> , Pembroke College Middle Common Room, Oxford, UK	Nov. 2016–Jun. 2017
<ul style="list-style-type: none"><li>○ Delegated and shared tasks in a group of three;</li><li>○ Organized three formal halls and one black tie event per term.</li></ul>	
<b>Teaching Assistant</b> , Department of Mathematics, Northwestern University	Sept. 2015–Mar. 2016
<ul style="list-style-type: none"><li>○ Led a weekly discussion section on calculus for one hour;</li><li>○ Answered students' questions about problem sets;</li><li>○ Invigilated and marked two department-wide quizzes and up to three exams per term.</li></ul>	

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### Awards

<b>Outstanding Graduate Prize in Applied Mathematics</b>	2016
<b>Roger Boye Oxbridge Bursary</b> to support study at Oxford	2016
<b>Summer Research Opportunities Award</b> to support summer research	2014
<b>Merck Index Award</b> for outstanding performance in organic chemistry	2013
<b>Woody Herman Jazz Award</b> for four years of service to my high school's jazz band	2012

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### Skills

C++ • Python • MATLAB • Mathematica • LaTeX • HTML • CSS  
English • German • Russian  
Communication • Time Management • Self-Motivation • Teamwork