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 EDUCATION

- London School of Economics and Political Science (LSE)** August 2020  
*M.Sc., International Relations*  
 Dissertation: *Spying the Knot: Practices of State Secrecy and Intelligence Sharing*  
 Honors: Alternate for Fulbright Award
- Massachusetts Institute of Technology (MIT)** June 2016  
*S.B., Nuclear Science and Engineering*  
 GPA: 4.8/5.0 (Major GPA: 5.0)  
 Dissertation: *Data Processing and Inference Methods for Zero Knowledge Nuclear Disarmament*
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## EXPERIENCE

- Institute for Defense Analyses** July 2016 - August 2019  
*Research Associate, Science and Technology Division*  
 Alexandria, VA  
 - Supported Department of Defense sponsors with research, technical analyses, and scientific documentation, primarily with regards to nuclear effects and weapons testing  
 - Led effort to reevaluate historic nuclear cloud rise and fallout data for the validation of fallout dispersion models  
 - Analyzed impacts of STEM research and education initiatives
- Zero Knowledge Nuclear Security, MIT** September 2014 - June 2016  
*Researcher*  
 Cambridge, MA  
 - Developed methods to process nuclear resonance fluorescence data  
 - Implemented Bayesian inference simulations to quantify information leakage for a weapons verification scheme
- Center for American Progress** June 2015 - August 2015  
*Intern*  
 Washington, DC  
 - Performed policy research, analysis, and writing on a broad range of issues, from the electric grid and energy storage to marine conservation and national parks
- Centre for Nuclear Engineering, Imperial College London** June 2014 - August 2014  
*Research Intern*  
 London, UK  
 - Produced both finite element and peridynamic simulations of Zirconium corrosion in ABAQUS using user-defined subroutines and scripts written in FORTRAN and Python
- Deep Borehole Nuclear Waste Disposal, MIT** May 2013 - December 2013  
*Researcher*  
 Cambridge, MA  
 - Analyzed borehole data to typify deep borehole groundwater compositions  
 - Designed, implemented, and evaluated experiments to characterize potential waste canister fill materials at extremely high pressures
- Office of Nuclear Energy, U.S. Department of Energy** January 2014  
*Intern*  
 Germantown, MD  
 - Shadowed and supported the Director of the Office of Space and Defense Power Systems
- Fenwick High School** June 2010 - August 2012  
*IT Project Manager*  
 Oak Park, IL  
 - Significantly improved and updated computing infrastructure; managed other summer employees
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## PUBLICATIONS

- W. DeMaio, J. Bewley, F. Sallis-Peterson, D. Gillingham, and E. Parrish. Digitization and Analysis of Priscilla Nuclear Cloud Films. Technical report, Institute for Defense Analyses, 2018.
- P. Platt, R. Mella, W. DeMaio, M. Preuss, and M.R. Wenman. Peridynamic Simulations of the Tetragonal to Monoclinic Phase Transformation in Zirconium Dioxide. *Computational Materials Science*, 140:322–333, 2017.
- W. DeMaio, C. Kramer, D. Sparrow, N. Kaminski, and S. Teng. Fire in the Fog (for TRADOC G-2 Mad Scientist Science Fiction Writing Contest). Institute for Defense Analyses, 2017.
- W. DeMaio. *Data Processing and Inference Methods for Zero Knowledge Nuclear Disarmament*. S.B. Thesis, Massachusetts Institute of Technology, 2016.
- F. Rotondo, J. Snyder, and W. DeMaio. Nuclear Batteries in Extended-Use, Low-Power Electronics. Technical report, Institute for Defense Analyses, 2016.
- S. Polefka and W. DeMaio. The Dividends of Coastal Conservation in the United States. Technical report, Center for American Progress, 2016.
- W. DeMaio and E. Bates. Salinity and Density in Deep Boreholes. *MIT Undergrad. Res. J.*, 26:42–48, 2013.
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## SKILLS

Python, MATLAB, Mathematica, FORTRAN, L<sup>A</sup>T<sub>E</sub>X, ABAQUS, Excel, Google Earth, Adobe Creative Cloud, Windows Server, Linux