MADISON COOTS

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EDUCATION

Stanford University, Stanford, CA, 2015 – Present
Computer Science M.S. '21
Management Science and Engineering B.S. '19
English Minor '19

WORK EXPERIENCE

Data Science Graduate Fellow U.S. Government | June 2019-September 2019
Developed and released a complete Python package to enable data scientists across the organization to more quickly and effectively conduct network analyses and generate clear and informative visualizations; package significantly reduces overhead required in ingesting multiple types of network data, and provides intuitive methods for an analyst to leverage in extracting intelligence insights from any collection.

Data Science Intern | U.S. Government | June 2018-September 2018
Developed a system to analyze and reveal new mission targets, allowing stakeholder to better direct future data collections. Work involved leveraging previously untouched data from disparate sources and designing customized object-oriented model for grouping and structuring data records, allowing us to exploit unseen connections between entities of interest. Served as lead data scientist in coordinating efforts across office units to ensure mission success.

Technical Founder and Head of Data Science | Lucid | November 2017-Present
Leading technical deployment of newly launched startup . Involvement has included developing and evaluating analytic algorithms according to different assumptions about data generation process underlying our targets. In preparation for release of Lucid's web-based application, conducted statistical simulations to determine optimal parameters for our data collection system.

Data Science Intern | U.S. Government | July 2017-September 2017
Greatly enhanced understanding of the reliability of critical data collection processes and identified crucial sources of error in current targeting efforts. After discovering significant discrepancies between data originating from different sources, employed statistical methods to surface influential underlying collection mechanics resulting in these inaccuracies.

Systems Engineering Intern | U.S. Government | June 2017-September 2017
Streamlined the assessment of new technical capability and significantly expedited test plan completion by de-conflicting workflows and parallelizing internal processes. Managed and facilitated important communication between government personnel and contractors throughout project development. After completion of assessment, provided office leadership with recommendations on areas for improvement in future tests, as well as an evaluation of the performance of the contractor.

TEACHING

Course Assistant| MS&E 252: Decision Analysis I | Autumn 2019-2020
Prepared and lead interactive problem sessions to reinforce concepts from lecture through content review and worked examples. Advised students in the application of course methods to case study projects. Held weekly office hours, responded to student questions on course forums, and managed course logistics. Received award from Stanford Center for Professional Development for excellence in teaching.

Course Assistant| MS&E 125: Applied Statistics | Winter 2019-2020
Prepared and lead weekly discussion sections for students to get additional review of lecture material and guided practice with R. Advised and guided student final projects that applied course methods to an area of their choosing. Held weekly office hours, responded to student questions on course forums, and managed course logistics.

FELLOWSHIPS

United States Government Undergraduate Scholar, *2015-2019* | United States Government Graduate Scholar *2019-Present* | Stanford Engineering Coterminal Fellowship *2019-2020*

SKILLS

Stochastic Modeling | Linear Optimization | Probabilistic Analysis | Decision and Risk Analysis | Data Visualization (Tableau) |Geographic Information Systems | Web Development

LANGUAGES

Python | R | C ++ | Julia | Java Script | HTML | CSS