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Matthew Moocarme

A motivated, skilled PhD physicist with comprehensive, in-depth programming experience, strong problem-solving skills and excellent communication.

EXPERIENCE

The Graduate Center of CUNY - Graduate Student Researcher
2010 - present

- Developed, implemented, and tested new and novel theories that end in peer-reviewed publications.
- Built analytical models and tools with mathematical software and
- Designed experiments to test hypotheses quickly and efficiently to gain intuition and results.

Queens College of CUNY
Adjunct Lecturer
2011 - present

- Overhauled and taught the "Physics for Computer Scientists II" lab, incorporated Python and Matlab to develop an understanding of physics.
- Emphasis placed on understanding causal relationships and communicating results via visualizing data.

EDUCATION

Expected Graduation: September 2016

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|------------------------------------|---------------------------------|
| THE GRADUATE CENTER OF CUNY | PhD Physics in progress |
| THE GRADUATE CENTER OF CUNY | M.Phil. Physics in progress |
| QUEENS COLLEGE OF CUNY | M.S. Physics in progress |
| CALIFORNIA STATE UNIV., LONG BEACH | B.S. Physics, 2010 GPA: 3.85 |

PUBLICATIONS

3 first author publications

DOI: 10.1364/OE.23.028471,
DOI: 10.1364/OME.4.002355,
DOI: 10.1021/nl4039357,
1 in progress

Other publications

DOI: 10.1364/OPTICA.2.000447,
DOI: 10.1364/OE.20.019214,
DOI: 10.1364/OE.24.010402,
1 in progress

INDEPENDENT PROJECTS

Has Vision Zero Worked? - <https://moocarme.github.io/mmoo/Vision-Zero>

An analysis into whether Bill de Blasio's campaign to reduce the number of traffic-related injuries in is NYC is successful, and data-driven recommendations for increasing its effectiveness.

Google Trends Predict Stock Market Returns - moocarme.github.io/mmoo/AppleStockPred

Time-series analysis shows that stock market returns can be predicted by google trends. Increases performance of ARIMA-GARCH model to 6% annual return on investment and runs in 29% of the time.

Why does all country music sound the same? - moocarme.github.io/mmoo/riffCode

Data mining song data of country music and comparing data to other genres.

Coursera Data Science Specialization - <https://www.linkedin.com/in/matthew-moocarme-78a053b6>

PROFESSIONAL SKILLS

PYTHON ● ● ● ● ●

SQL/HIVE ● ● ● ● ●

LaTeX ● ● ● ● ●

R ● ● ● ● ●

GIT ● ● ● ● ●

ILLUSTRATOR ● ● ● ● ●

MATLAB ● ● ● ● ●

TABLEAU ● ● ● ● ●