Anthony Ostuni

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Education

University of Maryland (GPA: 3.94 / 4.00)	**College Park, Maryland**
B.S. Computer Science (Departmental Honors Program)	*Expected May 2021*
B.S. Mathematics (Applied Track) (Departmental Honors Program)	*Expected May 2021*

Honors

Michael Antonov Endowed Scholarship	*Sept. 2020 – May 2021*
A. James Clark Scholarship	*Sept. 2017 – May 2018*
Dean's Scholarship	*Sept. 2017 – May 2018*

Research Experience

Independent Combinatorics Research (under Dr. Wiseley Wong)	**College Park, Maryland**
Researcher	*Jan. 2020 – Present*

- Applying linear programming and other optimization techniques to problems in combinatorics relating to delta systems
- Examining spectral lower bounds on the toughness of (hyper)graphs

Combinatorics and Algorithms for Real Problems NSF REU @ UMD	**College Park, Maryland**
Undergraduate Researcher	*June 2020 – Aug. 2020*

- Modified recent deep learning advances in auction design theory to create a novel neural network that includes fairness constraints, with applications to online advertising (with Dr. John Dickerson)
- Used a variety of computational techniques and theoretical results from extremal combinatorics and spectral graph theory to determine the toughness of Kneser graphs (with Dr. Wiseley Wong)

Publications

Kuo, K*., **Ostuni, A.***, Horishny, E.*, Curry, M.J.*, Dooley, S.*, Chiang, P.Y.*, Goldstein, T. and Dickerson, J.P., 2020. ProportionNet: Balancing Fairness and Revenue for Auction Design with Deep Learning. *arXiv preprint arXiv:2010.06398*. Submitted.

Park, D.*, **Ostuni, A.***, Hayes, N., Banerjee, A., Wakhare, T., Wong, W. and Cioabă, S., 2020. The Toughness of Kneser Graphs. *arXiv preprint arXiv:2008.08183*. Submitted.

Work Experience

University of Maryland, College Park	**College Park, Maryland**
Computer Science Course Facilitator	*Jan. 2020 – Present*

- Designed, created, and am currently teaching the 30-person course CMSC389V: Ethics of Artificial Intelligence and Machine Learning (offered through UMD's Student Initiated Courses program)
- Course webpage found at github.com/aostuni/Ethics-of-AI-ML

Grader (CMSC/MATH475: Combinatorics and Graph Theory)	*Aug. 2020 – Present*
Teaching Assistant (CMSC250: Discrete Structures)	*Jan. 2019 – Jan. 2020*

- Led a 30-40 student class discussion twice weekly
- Held weekly office hours and graded exams

Google	**Sunnyvale, California**
Engineering Practicum (now STEP) Intern	*May 2019 – Aug. 2019*

- Developed software in Java to discover and asynchronously onboard over 20,000 IoT video-conferencing devices into a smart building management platform
- Presented the design and implemented project to the Google smart building team and at a project showcase to other interns and full-time employees

Johns Hopkins Applied Physics Laboratory	**Laurel, Maryland**
Air and Missile Defense Intern	*May. 2018 – Aug. 2018, Jan. 2019*

- Developed a missile driver for an advance missile real-time hardware-in-the-loop system
- Improved a Matlab script to automatically create PowerPoints given a folder of images
- Presented a technical talk on developments to fellow interns and upper-level managers

Skills

Arduino, C, Git, Java, Matlab, OCaml, Python, Unix/Linux