Chenkai Xia

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Academic Experience

Doctor of Philosophy in Physics (candidate)   *September 2020 – Present*
Physics Department-Research/Teaching Assistant   *George Washington University*

- Study and analyze social platforms for activities of actors with malicious intent to simulate and determine how (mis)information spreads on social media to assist policymakers in determining potential mitigation strategies to prevent the spread of harm online. Analysis presented to the Department of Defense.
- Utilized modeling in Python and data analysis in MATLAB for published study.
- Created and compiled reports outlining project progress and organized meetings to conduct in-progress reviews.
- Provided feedback on individual student challenges with lectures and assignments, including lecture reviews and guidance during office hours.
- Other: As student senator and Grad Education Policy chair, worked to distribute funding for student organizations. Additionally, advocated for international student extracurricular activities, academic environment, and career services.

Bachelor of Science in Physics   *September 2018 – September 2019*
Kuehn Physics Lab   *University of Illinois at Urbana-Champaign*

- Researched interactions in the ecosystem of algae, bacteria, and ciliate (ABC), and carbon cycle in said ecosystem.
- Focused on designing and building the measurement system used in our experiment and analyzing measured data.
- Built the required system infrastructure for measurement in Raspberry Pi 3.
- Executed studies via extensive experience in CircuitPython and MATLAB.

Internship Experience

Software Engineer & Data Analyst (Intern)   June *2017 – August 2017*
Huawei Wuhan Institute, Huawei Technologies Co, Ltd   *Wuhan, China*

- Developed critical sections of code to implement updated interface designs, enabling end users' access to user-identified selectors for search, increasing overall productivity almost twofold from the previous version.
- Analyzed the data regarding the operator experience for the new design interface and tracked issues and feedback to implement minor modifications.
- Experience with C++ and Java.

Auditing & Data Analyst (Intern)   June *2016 – August 2016*
Changjiang Securities   *Wuhan, Hubei, China*

- Conducted data analysis for an Initial Public Offering (IPO) project for a local Company in Wuhan.
- Analyzed over 10,000 bank documents for high-risk transactions, conducting holistic account analysis and consulted with accounting leads for potential action based on reports.
- Extensive experience in data analysis with Python.

Publications

C. Xia and N.F. Johnson. "Nonlinear spreading behavior across multi-platform social media universe." Chaos. 2024 Apr 1;34(4):043149. doi: 10.1063/5.0199655.
C. Xu, P. Hui, O. K. Jha, C. Xia, and N. F. Johnson, "Preventing the spread of online harms: physics of contagion across multi-platform social media and metaverse," https://doi.org/10.48550/arXiv.2201.04249 (2022).

Education

Doctor of Philosophy in Physics (candidate)   *August 2020 – Current*
George Washington University   *Washington, DC*

- GPA: 3.79/4.00.
- Receipt of Merit Scholar Scholarship.

Bachelor of Science in Physics   *September 2015 – December 2019*
University of Illinois at Urbana-Champaign   *Champaign, Illinois*

- GPA: 3.69/4.00.
- Receipt of James Scholar Scholarship.
- Dean's Lists: Fall 2015, Spring 2016, Fall 2016, Fall 2017.