SE YONG PARK

College Park, MD
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EDUCATION

Bachelor of Science in Mathematics and Physics, University of Maryland, College Park Expected 2024
Completed Coursework: Classical Mechanics, Statistical Mechanics, Quantum Physics, Linear Algebra, Algebraic Topology, Differential Geometry, Introduction to Matlab, Intro to Computer Systems (C Programming)
In Progress: Optics Lab, Computational Physics (Numerical Methods), Probability Theory, Signal Processing

Montgomery Blair High School Math and Science Magnet Program 2016 - 2020
Relevant Coursework: Mathematical Physics, AP Computer Science A (Java), Analysis of Algorithms, Intro to Engineering

SKILLS

Languages Python, R, C/C++, Javascript/Typescript, Java, Arduino, HTML/CSS, LaTeX
Applications Autodesk Inventor, Fusion 360, Matlab, Jupyter, Excel, Cura

EXPERIENCE

REU (Research Experience for Undergraduates) in Topological Data Analysis May 2022 - July 2022
University of Wisconsin, Madison *Remote*

- Completed a research project applying topological data analysis (TDA) to analyze differences in the distribution of warm and cold dark matter halos in the Copernicus Complexio N-body cosmological simulation
- Analyzed simulation data using R and Python
- Designed and implemented a separate experiment to investigate problems created by overlap between different samples of dark matter halo data
- Prepared and delivered a weekly presentation on TDA to a research group at UW-Madison
- Compiled a written research report summarizing findings

University of Maryland Institute for Advanced Computer Studies (UMIACS) June 2019 - Aug 2019
University of Maryland, College Park *College Park, MD*

- Completed a summer research internship on fairness in machine learning
- Collaborated with two other researchers to develop and implement algorithms for retraining biased classifiers
- Wrote code in python using pandas, numpy, sklearn and matplotlib to clean datasets, perform exploratory data analysis and train/retrain machine learning models
- Prepared and presented a poster at an event held by the Washington Academy of Sciences

AWARDS

USA Physics Olympiad Semifinalist 2020
One of 400 students nationwide to qualify for the semifinal round of the USA Physics Olympiad

US Presidential Scholar Candidate 2020

PUBLICATIONS

Transparency Tools for Fairness in AI (Luskin) 2020
M. Chen, A. Shahverdi, S. Anderson, S.Y. Park, J. Zhang, D. Dachman-Soled, K. Lauter, M. Wu. "Transparency Tools for Fairness in AI (Luskin)." Research in Mathematics and Public Policy, pp. 47-80.