Militsa Sotirova

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY   **Expected May 2022**
Bachelor of Science, Computer Science
Minor: Dyson Business Minor for Engineers
GPA: 3.74
***Relevant Courses*:** Data Structures and Functional Programming; Digital Logic and Computer Organization; Discrete Structures; The Computing Technology Inside Your Smartphone; Honors Object-Oriented Design and Data Structures; Probability Models and Inference, Linear Algebra for Engineers; Marketing Principles; Financial Accounting

Thomas Jefferson High School for Science and Technology (TJHSST), Alexandria, VA   **June 2018**
TJHSST Advanced Diploma, Computer Systems
GPA: 4.41
Relevant Courses: Computer Systems Research Lab; Parallel Computing; Cryptography; Artificial Intelligence; Computer Vision; Mobile Application Development

WORK EXPERIENCE

Ruminant Farm Systems (RuFaS), Cornell University, *Programmer*   **November 2018 - Present**
- Developing a simulation in Python that models nutrient flow through a farm system; collaborating with students and professors from universities nationwide; go through and perform code reviews
- Used Python's *PuLP* module (linear programming) to implement linear optimization
- Independently designed and refactored a major component of the model: functionality of entire animal simulation
- Investigating optimizations of existing code with parallelization (Python's *multiprocessing* module)
- Mentored a student new to coding so that she could contribute to the project
- Implemented a feature for a different style of input data which improves the general user experience
- Presented above contributions at annual conference to leaders of the project and potential industry partners

RESEARCH EXPERIENCE

Computer Systems Laboratory, TJHSST, *Student Researcher*   **August 2017 – May 2018**
Conducted a research project of my own design (*Title: Improving Reading Level Evaluations Using Sentence Structure & Word Frequency*):
- Goal was to improve the way we think about analyzing text by coming up with more in depth criteria
- Wrote a program using Python's NLTK module (natural language toolkit) and the Oxford English Dictionary API to analyze reading levels of different texts using a formula I developed based on word frequency and sentence structure; created a website for easy user interaction
- Wrote a research paper about my developments and created a poster to display final work
- Presented final work to teachers and professionals at tjSTAR, an annual symposium to showcase research

LEADERSHIP EXPERIENCE

Club Luminous, Sterling, VA**,** *President/Treasurer/Chapter Leader*   **August 2017 – August 2018**
- Prepared lessons for and taught weekly classes that introduced middle schoolers to different STEM topics such as the cryptography, aerodynamics, the physics of light, etc.

SKILLS

Programming Languages: Java, Python, Golang, OCaml, C/C++, JavaScript, HTML/CSS
Frameworks/Libraries: Spark, MPI
Version Control: GitHub
Foreign Languages: Bulgarian (intermediate)