

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: 3.748

Relevant Courses: Data Structures and Functional Programming; Embedded Systems; Digital Logic and Computer Organization; Introduction to Analysis of Algorithms; Introduction to Computer Vision; Discrete Structures; The Computing Technology Inside Your Smartphone; Honors Object-Oriented Design and Data Structures; Probability Models and Inference, Linear Algebra for Engineers; Futures, Options, and Financial Derivatives; Finance; 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
- Project leader of data management team - exploring ways to use SQLite to store input data as well as persist results; lead meetings on the topic and assign weekly tasks
- Independently designed and refactored a major component of the model: functionality of entire animal simulation
- Introduced unit-testing to the project
- 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

Regularly use GitHub for version control