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Militsa Sotirova

Skills

Programming Languages: Java, Python, Golang, C/C++, JavaScript, HTML/CSS, OCaml
Frameworks/Libraries: Spark, MPI

Education

Cornell University | Ithaca, NY
School of Engineering: B.S. Computer Science, Dyson Business minor
August 2018 - May 2022
Coursework:

- Data Structures and Functional Programming (CS 3110)
- Digital Logic and Computer Organization (ENGRD 2300)
- Object-Oriented Design and Data Structures - Honors (CS 2112)
- Discrete Structures (CS 2800)
- The Computing Technology Inside Your Smartphone (ENGRI 1210)
- Linear Algebra for Engineers (MATH 2940)
- Finance (HADM 2250) & Financial Accounting (AEM 2210)

Thomas Jefferson High School for Science & Technology (TJHSST) | Alexandria, VA
Computer Systems: TJHSST Advanced Diploma
August 2014 - May 2018
Coursework:

- Computer Systems Research Lab
- Parallel Computing
- Cryptography
- Artificial Intelligence
- Computer Vision
- Mobile Application Development

Experience

Ruminant Farm Systems (RuFaS) | Cornell University
November, 2018 – PRESENT
Developing simulation that models nutrient flow through a farm system based on user inputs as well as published research. Collaborating in team with students and professors from universities across the nation; use GitHub for version control. Currently optimizing existing code by parallelization. Refactored one of the existing main components of the model to make it more maintainable and modular in nature. Mentored a student who was new to coding to contribute to the project. Created code generator for existing and future attributes. Designed and coded the animal feed ration formulation, providing a feature for a different style of input data, which improves the general user experience. Presented my contributions at annual RuFaS conference in August, 2019 in NYC.
Language: Python
Modules used: multiprocessing, PuLP (linear programing), csv, json, numpy, datetime, matplotlib

Improving Reading Level Evaluations Using Sentence Structure & Word Frequency | TJHSST
August, 2017 – May 2018
Conducted a research project of my own design from start to finish. Analyzed reading levels of different texts using a formula that I developed. Created a website for user interaction. Under the mentorship of my lab director, regularly practiced presenting my progress to a group. Wrote a research paper and created a poster to display the work I had done; presented my final work at tjSTAR - an annual symposium to showcase research.
Languages: Python, JavaScript, HTML, CSS
Modules used: nltk, cherrypy, regex, urllib, http, json, pytz, email, imaplib