Wentao Wu

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EDUCATION

MS, Computer Science, GPA: 3.61	Stony Brook University, Dec 2020 (Expected)
PhD, Environmental Engineering	Nankai University, China & Pennsylvania State University, 2015
BS, Environmental Science	Nankai University, China, 2009

TECHNICAL SKILLS

Programming Language: Java, Python, C, MySQL, PHP, HTML/CSS/JavaScript
Platforms/Tools: Linux/Unix, MacOS, Git, Flask, Hadoop, Spark, JDBC, LaTex

RELEVANT EXPERIENCE

Graduate Research Assistant, Data Science Lab, Stony Brook University, NY   01/2020 - Present
Political Polarization and Marriage Project (Python)
- Analyzed and ETL raw data from over twenty US States' voting registration in 8 consecutive years
- Designed and developed a multi-identifier model for couple marriage identification from the voter information
- Computed factors that affect marriage by tracking couples' status and party affiliation history

Measuring and Mitigating Animosity toward AI Systems and Science Project (Full-stack Developer)
- Designed two survey sites to gauge public's attitude toward AI (Bootstrap4, CSS, MySQL, PHP, D3.js)
    1) Designed and Developed a re-offend prediction game based on COMPASS criminal defendants database
    2) Designed and Developed a weather prediction game in multi-level AI assistant modes, with frontend user interface and interaction implemented in JavaScript and D3.js
- The project is currently deployed in SBU's Linux server for testing with public access

Research Assistant, Bioconversion Lab, Pennsylvania State University, PA   09/2013 - 03/2015
Sustainable Bioresources System Modeling
- Extracted and processed historical hydrological/meteorological data for sustainable bioresource system model testing (Python)
- Designed and Implemented a mathematical model for energy/chemicals production/yield from bio-energy plants

PROJECTS

Software Development for Optimizations in Biomolecular Simulations   02/2020 - 05/2020
- Implemented macromolecular sampling, forces and energy computation algorithms (C language).
- Developed a multidimensional optimization algorithm based on Metropolis Monte Carlo search for simulation of protein-protein interactions

Network Traffic Initial Window Measurement Trend Tracking   11/2019
- Developed an internet communication monitor for dissecting HTTP and TCP traffics (Python, TCPdump).
- Probed the Majestic top 1 million websites TCP's initial window configurations for IW10 trend investigation (implemented with tool: Zmap module)

Simulated Linux Kernel Development   09/2019 - 11/2020
- Implemented a Linux kernel system call with message encryption/decryption function (C, GDB)
- Incorporated a process scheduling policy based on real-time earliest deadline first scheduling
- Implemented a virtual file system, which could recursively create directories/files for task information storage

Zillow Data Analysis and Visualization Web Application   03/2019 - 05/2019
- Developed a web application that converts Zillow US house sales data into an interactive visualization service (Python, Pandas, Flask, d3.js)
- Implemented the house sales prediction with Keras deep learning library.

Programming Language Design   03/2019 - 05/2019
- Implemented a programming language (SBML) by simulating SML syntax and semantics (Python Lex and Yacc)
- All basic statements and functionalities are implemented: data types, operations, error check, and functions