Peter C. Hwang

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EDUCATION

B.S. in Mechanical Engineering
University of Maryland | A. James Clark School of Engineering

B.S. in Computer Science
University of Maryland | College of Computer, Mathematics, and Natural Sciences

SKILLS

PROGRAMMING SKILLS	Java, Python, MATLAB, C++, C#, JavaScript, HTML5/CSS3, SQL, Kotlin, XML
TECHNOLOGIES	Azure, AWS, Postman, Docker, Git/GitHub, MongoDB, Node.js, Google Firebase, RESTful API

WORKING EXPERIENCE

Columbia University: Mailman School of Public Health   **New York, NY**
AI/ML Research Associate   December 2023 – Present
- Leveraged SQL and Microsoft Excel to cleaned and pre-processed diverse medical data provided by Columbia University and the National Institutions of Health to discover the effective disease transmission rate
- Implementing *Finite Expression Methods* using PyTorch on using underlying concepts such as combinatorial optimization and reinforcement learning to achieve a theoretical accuracy of 90% on the effective disease transmission rate predictions for 4 different epidemic diseases

UMD Computational Research Lab   **College Park, MD**
Software Engineering Associate   June 2023 – September 2023
- Automated simulation parameter entries, test analyses, and data exportations using Python and Bash commands in a Linux environment to reduce processing times by 56% and streamline manual components
- Coordinated with other engineers from the Department of Defense to analyze parameter sensitivities of exothermic compositions using Python, R, and MongoDB to develop thermodynamic models

Textron Systems: Geospatial Intelligence   **Sterling, VA**
Software Engineering Intern   May 2022 – August 2022
- Remodeled open-source metadata streaming application by parsing and dockerizing configuration files using Docker, NestJS, Postman, and MongoDB to dynamically update tables with stream requests, query statuses, and query results
- Enhanced intuit of user interface using TypeScript by identifying and displaying available stream endpoints to shortcut end processes for users
- Implemented self-service portals using TypeScript, CSS, and HTML to monitor stream query requests and metrics of local machines, and streamlined DevOps and core engineering involvement
- Created and tested RESTful API using Swagger framework and articulately documented capabilities of live metadata streaming application
- Worked in a Scrum environment using Microsoft Azure DevOps for sprint planning and Git for code reviews

Textron Systems: Electronic Warfare   **Hunt Valley, MD**
Systems Engineering Intern   May 2021 – August 2021
- Debugged and refactored internal calibration application using C# for instrument and product frequency output calibrations
- Coordinated directly with clients and other engineers to support the development of system-level requirements such as system architecture models, customer requirements, and acceptance test procedures
- Supported impact analyses for proposed requirement changes by conducting data analyses on system frequency outputs using Python scripts

PROJECTS

Stock Predictor
- Used Recurrent Neural Network (RNN) models to predict the stock return of individual stocks using TensorFlow, NumPy, Pandas, and YFinance API amid visualizing the projected value of the given stock using Matplotlib

Currency Flow
- Created a webpage application using HTML/CSS and JavaScript in an Express framework where users can conveniently conduct international currency conversions using Fixer API while monitoring user demographics through dynamically updating MongoDB tables

WORKING EXPERIENCE

Society of Asian Scientists and Engineers   **College Park, MD**
Officer of Outreach   August 2021 – May 2022
- Coordinated body-wide events to gain publicity and to expose existing members to internship, employment, and networking opportunities
- Managed student memberships and emails via TerpLink