Peter Yang

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Education

University of Michigan — Ann Arbor, MI
Bachelor of Science in Computer Science, Mathematics, Statistics, Data Science — *Aug. 2022 – May 2025*
- **GPA**: 3.83/4.00

University of Wisconsin-Madison — Madison, WI
Bachelor of Science in Computer Science, Mathematics — *Sep. 2021 - Jun 2022*

Experience

Software Engineer Intern — May 2024 – Aug. 2024
MathWorks - App Designer and Infrastructure Services Team — *Boston, MA*
- Developed and deployed a JavaScript solution enabling forward compatibility for MATLAB app formats, integrating with the existing backend to support conversion from plaintext to binary file formats resulting in enhanced MATLAB App Designer user workflows
- Leveraged asynchronous programming, backend development in JavaScript, and version control with Perforce
- Created detailed architectural specifications and implemented 15+ unit tests to ensure robustness and reliability of developed solutions
- Collaborated in an Agile environment, participating in daily standups and iterative development processes

Software Engineer Intern — May 2023 – Aug. 2023
MathWorks - Data Science Types Team — *Boston, MA*
- Developed and deployed a parser in C++ for time data strings, interfacing with MATLAB to support the parsing of previously unsupported time formats for MATLAB duration objects, resulting in increased customer usability
- Leveraged ISO Unicode and globalization libraries in C++ to achieve comprehensive language support, enabling parsing of data strings in over 250 languages
- Created project specifications and employed design patterns to ensure integration and modularity with existing duration parsing format
- Participated in Agile sprint cycles involving daily stand-up sessions and one-on-one meetings

Projects

StockXGuess | *React.js, Spring Boot, PostgreSQL, AWS*
- Developed an interactive web-based game using the React.js framework, where the player guesses the price of ten random sneakers from popular brands on StockX, receiving a score based on accuracy
- Created a RESTful API in Java using Spring Boot to read and update sneaker and user data from a PostgreSQL database
- Deployed the application online by using an AWS EC2 instance

MorphNet | *Python, PyTorch, Pandas, Scikit-Learn*
- Developed a 1D Convolutional Neural Network in PyTorch for the classification of sleep apnea episodes using SpO2 time series data
- Optimized the model by minimizing Binary Cross Entropy loss using the Adam optimizer
- Pruned and quantized parameters, achieving a 73.88% reduction in size for deployment on IoT biometric sensors
- Achieved an overall classification accuracy of 97.47%, with precision at 98.92%, recall at 97.84%

Options Pricing and Trading Tool | *Python, TDAmeritrade API, NumPy, SciPy, BeautifulSoup, Docker*
- Developed a program in Python to find the theoretical price of an options contract using the Black-Scholes model
- Used the TD Ameritrade API to display real-time Bid/Ask and last trade price data
- Utilized BeautifulSoup to scrape real-time risk-free rates and historical volatility by parsing website HTML
- Containerized the application using Docker for consistent environment setup and seamless deployment across different platforms

Technical Skills

Languages: C, C++, Java, JavaScript, Python, SQL (PostGres, SQLite), R, MATLAB, HTML/CSS, LaTeX
Frameworks/Libraries: React.js, Node.js, Express.js, Spring Boot, Flask, Jinja2, Bootstrap, NumPy, pandas, Matplotlib, seaborn, Scikit-Learn, PyTorch, SciPy, Requests, BeautifulSoup, Selenium
Developer Tools: Git/Github, Unix/Linux, Visual Studio, VS Code, IntelliJ, Perforce, Eclipse, Jira, Confluence