HARRY HILLMAN

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Graduate Software Engineer | Full-Stack Developer | Machine Learning Enthusiast | Proficient in Python, React, and AWS | Financial Forecasting and Data Analysis Expertise

AREAS OF EXPERTISE

- ✓ Python
- ✓ Java
- ✓ React.js
- ✓ Node.js
- ✓ Algorithm Design
- ✓ Data Structures
- ✓ Object-Oriented Programming
- ✓ Problem Solving
- ✓ Version Control (Git)
- ✓ API Development
- ✓ Statistical modeling (ARIMA, VARMA)
- ✓ Time Series Forecasting
- ✓ Cloud infrastructure (AWS EC2, S3)
- ✓ NoSQL Databases (AWS DynamoDB, MongoDB)
- ✓ Data Analysis (Pandas, NumPy)
- ✓ Machine Learning Models

CAREER HIGHLIGHTS

Machine Learning-based Financial Forecasting: Conducted using Python, applying models like ARIMA and LSTM, achieving accurate stock price predictions through time series analysis.
Virtual Engineering Simulations: Completed with J.P. Morgan and Goldman Sachs, optimizing system performance and improving cybersecurity measures through advanced analytical techniques.
Summer Accelerator: A scholarship offered by the University of York to help students through the process of developing a startup.

RELEVANT EXPERIENCE

Founder, MediReturn, Remote | March 2024 – Present

Developed and maintained a full-stack healthcare platform aimed at improving logistics and cost-efficiency in the healthcare sector. Leveraged modern web technologies and cloud services to create a highly scalable and responsive application, collaborating with NHS staff to explore implementation opportunities.

- Built and integrated backend services using **Node.js**, connecting to **AWS EC2**, **S3**, and **DynamoDB** to handle large-scale data storage and secure access.
- Integrated **Google Maps API** and other logistics-focused APIs to optimize route coordination and real-time location tracking.
- Deployed email and SMS-based authentication services using **NodeMailer** and **SMSWorks API**, ensuring secure and reliable user management.

Financial Forecasting using Machine Learning, University Dissertation, *York* | September 2023– May 2024

Full title: “Financial Forecasting: Comparing Traditional and Modern Approaches When Forecasting Index Funds”
Conducted research and implemented financial forecasting models using statistical and machine learning techniques as part of a university dissertation.

- Designed models using **Python**, **Pandas**, and **Scikit-learn** to predict stock prices and market trends.
- Applied various forecasting techniques including **ARIMA**, **LSTM**, and **Random Forest**, leading to the development of an accurate time-series forecasting system.
- Analyzed performance metrics of models against historical data from **Yahoo Finance API**, optimizing them for high accuracy in financial predictions.

Software Engineering Lite, JPMorgan Chase & Co, *Remote* | November 2023

Participated in JPMorgan Chase & Co's engineering simulation. Completed a simulation focused on the process of completing an engineering ticket for a system in the credit-card rewards department.

- Completed an engineering ticket, focusing on resolving issues within an existing rewards system for credit cards.
- Created a new class to restore system functionality and wrote comprehensive test suites to ensure code reliability.

Virtual Software Engineer, JPMorgan | November 2023

Completed a software engineering simulation focusing on real-world financial applications. Gained hands-on experience with key development tools and frameworks.

- Set up a local development environment, downloading necessary files, tools, and dependencies to ensure proper functionality.
- Fixed broken files in the code repository to restore correct web application output.
- Utilized J.P. Morgan's open-source library, **Perspective**, to create a live data feed graph, improving trader insights with a visually appealing display.

Software Engineering Virtual Experience, Goldman Sachs, Remote | November 2023

Participated in a virtual cybersecurity project focused on identifying and mitigating security vulnerabilities within the company's infrastructure.

- Detected the use of outdated password hashing algorithms by performing penetration tests using **Hashcat**.
- Proposed and documented system security improvements, including extended password policies and advanced hashing algorithms, contributing to enhanced IT security standards.

EDUCATION

BSc (Hons) Computer Science Upper Second-Class 2021-2023
University of York, York

A-Levels: Computer Science, Mathematics, Physics 2019-2021
Grades: BBB
Lawrence Sheriff School, Rugby

CERTIFICATIONS & MEMBERSHIPS

JPMorgan Chase & Co.'s Software Engineering Lite November 2023
Forage, Remote

JPMorgan Virtual Software Engineer November 2023
Forage, Remote

Goldman Sachs Software Engineering Virtual Experience November 2023
Forage, Remote