ERIC VOONG

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evoong.github.io/portfolio/

EDUCATION

University of Waterloo   **September 2018 - August 2024**
Bachelor's, Mathematics
- Double Major in Computational Mathematics and Business Administration/Information Technology Management
- Courses: Data Structures, Algorithms, Object Oriented Programming, Scheduling, Network Flow Theory, Networks and Distributed Computer Systems, Databases, Computational Statistics, OR Models, Advanced Regressions

PROFESSIONAL EXPERIENCE

Innovation Science and Economic Development Canada   **Gatineau, QC, Canada**
Data Scientist   *May 2022 - April 2024*
- Developed Python scripts utilizing libraries such as Pandas, NumPy, and Matplotlib to extract, analyze, and visualize key insights from patent data at the Canadian Intellectual Property Office, automating data collection and streamlining reporting
- Improved data classification and visualization by 30% by leveraging machine learning algorithms and NLP techniques to categorize unstructured data into meaningful segments
- Created a data cleaning script utilizing various machine learning matching algorithms to standardize and match names, improving the accuracy of patent data extraction and analysis by 70%

OpenText   **Markham, ON, Canada**
Software Developer   *May 2021 - August 2021*
- Contributed to the CI/CD process of features for a high-performance remote desktop access solution by collaborating with product managers and developers in an agile environment, reducing deployment time by 20%
- Tested and troubleshot UI compatibility across a range of devices and operating systems, ensuring that the platform's interface adapted smoothly to different screen sizes and resolutions, leading to a 30% reduction in user-reported interface bugs
- Validated platform performance on Linux-based systems, identifying and resolving compatibility challenges, which led to a 20% improvement in platform stability across Linux environments

Bell Media   **Toronto, ON, Canada**
Data Analyst   *January 2020 - August 2020*
- Reduced operational time by 25% by deploying robust ETL pipelines and automation workflows using SQL, efficiently processing large volumes of data from 14 platforms into a centralized data warehouse on GCP
- Optimized query performance across multiple databases by fine-tuning SQL queries and indexing, reducing query response time by 40% and improving data accessibility for marketing and operations teams.
- Automated KPI tracking and reporting using Tableau and Looker dashboards, reducing manual reporting time by 30% and improving campaign decision-making by providing real-time insights on marketing performance.

PROJECTS & OUTSIDE EXPERIENCE

Landscape Map Visualization (Python)
- Developed a patent landscape map by applying machine learning and NLP techniques, including TF-IDF, Principal Component Analysis (PCA), and Sentence Transformers, to extract key topics and trends from patent abstracts
- Improved trend analysis accuracy by 60% and presented insights to the Canadian Intellectual Property Office, showcasing the tool's ability to track emerging technological trends

Huffman Compression (Java)
- Developed an efficient Huffman coding algorithm that reduced file sizes by 50% without compromising data integrity, optimizing storage and transmission
- Created a dynamic dictionary of bitsets and characters to streamline compression and decompression processes, enhancing algorithm performance

Concert Ticket Price & Artist Popularity Prediction System (Python)
- Automated the extraction of ticket prices, event details, availability, and artist social media metrics using Selenium, Beautiful Soup, and RESTful APIs, while scheduling regular data collection intervals and preparing datasets for analysis by cleaning and organizing results into structured CSV files using Panda
- Implemented and compared predictive models to accurately forecast concert ticket prices and resale values, and identifying key market trends based on social media engagement and ticket availability data

SKILLS

Programming: Python, Java, R, SQL, MATLAB, C/C++, Bash, Assembly, HTML/CSS, JavaScript, React.js, Node.js
Tools: Linux/Unix, Git, VS Code, Jupyter Notebook, AWS, GCP, Kurbernetes, Docker, Tableau, Looker, Jira, Power BI