

Steven Song

Software Engineer | B.A.Sc. in Computer Engineering | Master in Applied Data Science

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RELEVANT EXPERIENCES

Teledyne FLIR – Software Engineer & Project Lead May 2022 – Present
(Tech Stack: ASP.NET Framework, C#, React, Next.js, Elasticsearch, AWS S3)

- Developed a new calibration infrastructure for the company's new product ([Bumble Bee X](#)), cutting calibration time by 37% through building multiple microservices and redesigning the user interface to improve operational efficiency and intuitiveness.
- Led the successful migration of the company's database to Elasticsearch Cloud, increasing database availability from 99% to 99.99%. Significantly enhancing database reliability.
- Engineered a robust solution for the efficient migration of 7 TB of critical production data to AWS S3, tripling transfer speeds by applying asynchronous programming.
- Developed an innovative visualization tool for the software architecture, enhancing team comprehension of the infrastructure network.

Greenlight Innovation – Full-Stack Developer (Intern) Sep 2021 – Apr 2022
(Tech Stack: ASP.NET Core, C#, Angular, PostgreSQL)

- Contributed to the development of a comprehensive project management tool, integrating issue tracking, bug tracking, and agile project management functionalities, utilizing Angular and ASP.NET Core.
- Built, maintained, and expanded several RESTful Web APIs, facilitating efficient database queries and supporting the seamless flow of information across platforms.
- Designed and implemented new front-end features that significantly reduced ticket creation time from several minutes to under 20 seconds and enhanced the user experience.

Clean Energy Research Center – Research Assistant (Intern) Sep 2019 - Sep 2020
(Tech Stack: Python, NumPy, Pandas, Matplotlib, PostgreSQL)

- Maintained a PostgreSQL database to efficiently handle collected experimental data.
- Developed Python scripts for comprehensive data analysis and visualizations.
- Maintained and improved the codebase for lab instruments, optimizing performance and reliability.

RECENT PROJECTS

Stock Sentiment Analyzer

Keywords: Python, SQL, NLP, Random Forest, Gradient Boosting Classifier

- Built a sentiment analysis project to predict stock price movements using news articles
- Leveraged BERTopic for topic modeling and FinBERT for sentiment scoring, achieving a 62.58% accuracy with Gradient Boosting Classifier.
- Developed a web scraper to collect and store 5375 news articles from Benzinga and combined this with stock price data from Yahoo Finance.
- Conducted feature engineering and model evaluation, outperforming baseline models and identifying key features impacting stock price predictions

US Home Price Analysis

Keywords: Python, Pandas, Feature Importance, Data Visualization

- Built a data analysis project to identify the main contributors to home prices in the US.
- Analyzed factors such as Federal Interest Rates, Inflation, Population Migrations, and Geographical Region using data from Zillow, FRED, US Census Bureau, and SimpleMaps.
- Developed a unified dataset and visualizations to explore correlations and regional variances.

Rental Tinder

Keywords: Mobile App, React, Node.js, MongoDB

- Developed a cross-platform mobile app (Android & iOS) that facilitates secure and convenient connections between landlords and tenants
- Enabled landlords and tenants to post properties and living preferences, allowing users to connect through a Tinder-style matching system.
- Developed the full-stack application using React Native for the frontend and Node.js with MongoDB for the backend, ensuring a seamless user experience and efficient data management.

SKILLS

Programming

- C/C++, C#, Python, JavaScript/TypeScript
- Next.js, Angular, Node.js, Tailwind CSS
- Bash, Batch, Shell, PowerShell

Data Analytics

- Pandas, NumPy, scikit-learn, PyTorch
- SVM, Random Forest, CNN, RNN, Time Series Analysis
- Matplotlib, Vega-Altair, Seaborn

Databases & Tools

- Elasticsearch, PostgreSQL, MongoDB, DynamoDB
- Git, SVN, Docker, Jenkins, Postman
- MQTT, SignalR

EDUCATION

University of Michigan

Jan 2023- Sep 2024

Master of Applied Data Science

Overall GPA: 3.9/4.0

Relevant Coursework: Data Mining, Scalable Data Processing, Information Visualization, Supervised Learning, Unsupervised Learning, Causal Analysis, Reinforcement Learning, Natural Language Processing

University of British Columbia

Sep 2016 – May 2022

Bachelor of Applied Science – Computer Engineering

Overall GPA: 3.74/4.0

Relevant Coursework: Data Structures and Algorithms, OS, TCP/IP, Databases, FPGA, Embedded Systems

ARCHIVEMENTS

UBC APSC Faculty Awards (Capstone Project)

- Apr 2022

Developed a hand gesture-controlled robot using a hand gesture recognition machine learning module.

Work Learn International Undergraduate Research Awards

- Sep 2020

Worked in a research-intensive role under the direct supervision of Dr. Arman Bonakdarpour.

CERTIFICATES

[AWS Certified Cloud Practitioner](#)

- Nov 2022

[Deep Learning Specialization](#)

- Sep 2021