Steven Song

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

✉ stevensong0x7cc@gmail.com   ☎ (778)-929-5204   🌐 stevensong.space   📍 Vancouver, Canada

WORK EXPERIENCES

Teledyne FLIR – Software Engineer II   May 2022 – Present
(Tech Stack: C#, C++, Python, ASP.NET, React, Next.js, Elasticsearch, AWS S3)
- Developed a new calibration infrastructure for the company's new product ([Bumble Bee X](#)), cutting calibration time by 40%. Re-architected a monolithic application into microservices, redesigned the user interface to improve optional 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.
- Designed and implemented features for the company's flagship camera SDK, [Spinnaker4](#), enhancing camera functionality and improving user experience across diverse applications.

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

Mechanics AI
Keywords: Retrieval-Augmented Generation (RAG), Python, Next.js, Pinecone, GPT-4
- Designed and developed a RAG powered chatbot to assist users with vehicle-related inquiries, such as diagnosing problems, exploring issues, and accessing recall information.
- Retrieved data from NHTSA APIs, processed it into clean vector embeddings, and stored them in Pinecone for efficient and accurate query-based retrieval.
- Integrated GPT-4 to generate detailed responses with disclaimers and related resource links.
- Developed a user-friendly interface with Next.js, enabling seamless interactions with the chatbot for both technical and non-technical users.

PDF Tailor
Keywords: Desktop App, PySide6, Python
- Designed and developed a secure desktop application to merge and split PDF files locally, addressing privacy concerns associated with online PDF processing services.
- Built the application using PySide6, delivering an intuitive and user-friendly interface that simplifies PDF customization tasks for users of all skill levels.

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
- 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 supervision of Dr. David Wilkinson and Dr. Arman Bonakdarpour.

CERTIFICATES

[AWS Certified Cloud Practitioner](#)
- Nov 2022

[Deep Learning Specialization](#)
- Sep 2021