

LUCAS SONG

🌐 LucasSong | 🐙 Lucas-Song-Dev | 🌐 in/Lucas01-Song | ☎ 1.403.988.6881 | ✉ Lucas02.Song@gmail.com

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, HTML & CSS, System Verilog, ARM7/ARMv8

Tools/Frameworks: React, MongoDB, AWS, Heroku, Git, SSH, Node/Express, Linux, Jira, NPM, LaTeX, MATLAB

PROJECTS

🐙 **DALL-E ASSET GENERATOR** | *React, JS, MongoDB, Node/Express, AWS, Heroku* Feb 2022 - Present

- Developed an asset generator and hosting service where users could create, view, and delete posts in a community
- Hosted the frontend using AWS and the backend on Heroku
- Stored data on MongoDB and used Node and Express for API routing Integrated Cloudinary API for uploading photos and React for front-end development
- Implemented search functionality that allowed users to filter posts by name and prompt using a search

🐙 **Pathfinding Visualizer** | *React, JS, HTML & CSS* Nov 2022 - Present

- Developed intuitive application of Dijkstra and A* algorithms to identify shortest paths between nodes with 99% accuracy on over 20,000 nodes
- Enhanced user experience by designing responsive grid layouts to handle multiple display sizes
- Transformed application nodes to smoothly transition into personal website using animations and react hooks

Multi-Client Java server | *Java, AES, twitter API* Nov – Dec 2022

- Created an interactive server capable of accommodating multiple client connections and encrypted data streams using AES & Blowfish tech
- Integrated cache which enabled 10x faster access to frequently accessed resources, cutting down API calls by 70%
- Configured & deployed backup routes to sustain service continuity amidst network disruptions

RISC Processor | *System Verilog, Quartus, ARM7* Nov 2022

- Designed and built a 16-bit Turing Complete machine using System Verilog in 3 weeks
- Engineered modular testing to improve component performance by 50%

PROFESSIONAL EXPERIENCE

Assistant Engineer - Control Systems, Sunlake Co. Ltd. June – Sept 2022

Edmonton Clean Hydrogen Project, Edmonton Refinery Integration

- Developed Instrument Index Database and Control System I/O List to streamline control system deliverables
- Collaborated with Control Systems Lead Engineer to refine design criteria for plant telecommunication networks and control system architectures
- Enhanced piping & instrumentation diagrams, block diagrams and associated documents to reinforce quality assurance process for engineering projects, contributing 10% reduction in error rate

ADDITIONAL EXPERIENCE

Python Tutoring | Python, PyGame

- Established comprehensive 2-month Python curriculum raising hundreds for COVID relief
- Coached students in developing interactive projects such as Snake & Alien Invaders
- Delivered an effective learning plan to enhance student understanding of core concepts and improve student's problem-solving skills, resulting in up to 50% faster solutions

EDUCATION

The University of British Columbia

Anticipated 2025

Bachelor's Degree in Applied Science, Computer Engineering

Coursework: Software Construction, Computer Hardware, Data Structures and Algorithms, Math Proofs, Linear Algebra