LUCAS SONG

Lucas-Song-Dev | in/Lucas01-Song | 1.403.988.6881 | Lucas02.song@gmail.com

Technical Skills

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

Tools/Frameworks: Git, SSH, Linux, React, Quartus, LaTeX, MATLAB

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 engineering project deliverables, resulting in a 20% improvement in process time
- 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

Technical Projects

Pathfinding Visualizer | *React, JavaScript, 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, integrating useState hook in ReactJS for smooth transitions & enabling hover effects
- Transformed software architecture for improved developer-friendliness & stabilized the pathfinding process, reducing time of execution from 5 secs to 1secs

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%
- Delivered simple ARM7 programs: both working and proof of concept versions

Additional Experience

Python Program | Python, PyGame

- Established comprehensive 2-month Python curriculum raising hundreds for COVID relief
- Coached students in developing interactive projects such as Snake & Alien Invaders, fostering their critical thinking and problem-solving capabilities
- 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 of Applied Science, Computer Engineering GPA: 3.7/4.0 (A-)