Maxime Alexander Sutters

CONTACT INFORMATION

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EXPERIENCE

Amazon Web Services (AWS), Seattle/Bellevue, Washington USA
Software Development Engineer Apprentice **June 2022 - April 2024**

- Developed feature to automate key security tasks within AWS datacenters worldwide. Key performance indicators included efficiency of contract guard force and site security management in protecting server hosts and locating events potentially exposing customer data. Designed and implemented project using Python, GraphQL, and Java and considered localization requirements and governmental edge cases. Drove work across multiple teams and designed tests and proofs of concept to ensure compliance and efficacy.
- Maintained computer vision and machine learning systems processing petabytes of HTTP Live Streaming (HLS) video frames in real time and training and evaluating model performance against ground truth data. Wrote scripts to locate cameras and sites for specific regions.
- Identified and resolved database query issues in legacy code with new SQL queries to Amazon Redshift databases.
- Built CloudWatch metrics, dashboards, and alarms to parse logs and monitor automated Distributed Job Scheduler (DJS) jobs and AWS Lambda health and performance.
- Created and monitored CI/CD pipelines, AWS accounts, and Apollo environments for daily team deployments, host patching, permissions management, and code reusability.

EDUCATION

University of Washington, Seattle, Washington USA
Paul G. Allen School of Computer Science & Engineering

B.S., Computer Engineering, December 2021
Relevant Courses: Networks, Systems, Digital Design, Compilers, Data Structures and Parallelism

TECHNICAL SKILLS

Languages: Python, Java, Javascript, C/C++, Bash, HDL, SystemVerilog, Verilog, SQL, JSON, assembly
Tools: Quartus, ModelSim, GDB, Vim, Git/GitLab, IDEA, KiCad, LaTeX, Mathematica
Algorithm projects: Spam filter using machine learning (Naive Bayes), KD-tree nearest neighbor finder, content-aware image resizing with A* graph search
Operating Systems: Unix/Linux (AL2, WSL), Windows
Hardware: PCB design, 3D printing, flashing of Arduino/STM32 chips, SMD soldering
Frameworks: AWS: Lambda, API Gateway, Secrets Manager, GraphQL, S3, DynamoDB, Athena, Code Pipelines

PROGRAMMING PROJECTS

GuitXR: https://uwrealitylab.github.io/xrcapstone21sp-team4/
- AR guitar learning application for the Magic Leap headset with floating chords and tabs, instrument-mounted controls, and real-time pitch detection
- Built in Javascript and HTML via the WebXR API and A-Frame web framework
- Refactored ML5.js-based pitch recognition library for guitar
- Presented completed VR capstone demo at the University of Washington Reality Lab

N-Car Parking Garage Simulator
- Designed and programmed finite state machine (FSM) logic in SystemVerilog for two presence sensors at the gate of a simulated parking garage and an n-bit counter to track available spots
- Simulated functionality of hardware devices (LEDs, seven-segment displays, buttons, and switches) in ModelSim before flashing to the Altera DE1_SoC FPGA board using Quartus