José Hiram Soltren

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Synopsis

Staff/Principal Software Engineer. Instrument Rated Commercial Pilot. MIT Alum.
Seeking Firmware, Quant Dev, Algo Trading, Scientific Computing, Infra roles.
Expert in C, C++, systems, Linux, device drivers, hardware accelerators.

Experience

Team Lead/Manager, Build and Release Roku Jan 2023 - Sep 2023

- Responsible for official build, release, and CI infrastructure.
- Led team of four to implement self-service efforts, reducing ticket counts by 30% while improving turnaround time and throughput.
- Co-led pre merge CI for Roku firmware. Presented at IEEE ICST 2023.

Senior Software Engineer, Roku Players Roku Jun 2020 - Dec 2022

- Software lead for YouTube certification for three generations of player platforms.
- Software lead and hardware co-lead for Roku Streaming Stick 4K. Solved numerous hardware and software issues to unblock 20M unit program.
- C++20 based firmware development with a special focus on video decode.
- Authored a video capture tool widely used by external vendors and internal QA.

Deep Learning Software Engineer Nervana / Intel Corp. Aug 2017 - Feb 2019

- Driver development for "Lake Crest". 10 MLOC multithreaded templated C++11.
- Ran comparisons, benchmarks, and projections for different numerical formats on novel hardware accelerator for AI deep learning training, e.g. ResNet.
- Focus on hardware and software to run GEMM and convolution as fast as possible.
- Designed an algorithm for all-to-all data transfers on our hardware that beat the Bruck Algorithm, the fastest general purpose algorithm.
- Wrote accelerator kernels for matrix multiplication and multi-chip communication.
- Implemented support for running multiple jobs on a single chip.
- Consolidated HW initialization and management for increased perf and simpler code.

Software Engineer Cloudera, Inc. May 2016 - Aug 2017

- Hacking on Apache Spark, a big data computation framework written in Scala.

Senior System Software Engineer NVIDIA Corporation May 2011 - Apr 2016

- Software dev on 50 MLOC multithreaded C99/C++98 graphics/OpenGL driver.
- Video decode and post-processing technical lead. Added H.265/HEVC decode support to VDPAU. Wrote stream parser for H.265/HEVC video streams.
- Fixed hundreds of bugs, including a GPU crash when playing certain videos, and a race condition in the driver when initializing multiple GPUs.
- Wrote a custom debugger to use hardware watch points to catch data races without perturbing timing.

Education

Massachusetts Institute of Technology, Cambridge, MA
Master of Engineering and S.B., Electrical Engineering and Computer Science
Grad level operating systems course. Build a kernel and hypervisor in C.
Lab assistant for undergraduate microcontroller/firmware course.

Citizenship

United States