

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. <i>Expert in C, C++, systems, Linux, device drivers, hardware accelerators.</i>	
EXPERIENCE	Founder Soltren Consulting LLC, Cedar Park, TX	Jan 2016 - Present
	<ul style="list-style-type: none">• Early research and design work for a certified IFR navigation device compliant with RTCA DO-160, DO-178 and DO-254.• Implemented support for a novel deep learning inference accelerator for PyTorch and ONNX backends in C++11 and Python.• Hardware and firmware development for computer keyboards in C, C++, and some Rust under “XMIT Keyboards” brand.	
	Team Lead/Manager, Build and Release Roku	Jan 2023 - Sep 2023
	<ul style="list-style-type: none">• 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
	<ul style="list-style-type: none">• 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
	<ul style="list-style-type: none">• 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
	<ul style="list-style-type: none">• Hacking on Apache Spark, a big data computation framework written in Scala.	
	Senior System Software Engineer NVIDIA Corporation	May 2011 - Apr 2016
	<ul style="list-style-type: none">• 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.	

FLYING	Commercial Pilot, Instrument Airplane, ASEL Remote Pilot, Small Unmanned Aircraft System • Co-owner of a 1978 PA-32RT-300 Piper Lance II. Single engine, high performance, complex airplane. • Manage annual inspections and equipment upgrades for the aircraft. • Participate in owner-assisted maintenance and upgrades, such as LED lighting. • 238.7 hours in type as of 2023-11-08. • 407 hours total time as of 2023-11-08. • Instrument current as of this writing. • Working toward Certificated Flight Instructor (CFI). • FAA First Class Medical.	2012 - Present
COMMUNITY	President Experimental Aircraft Association (EAA) 1607, Lago Vista, TX • Coordinate and organize chapter events. Weekend Residential Faculty Eastside College Preparatory School, East Palo Alto, CA • Operated weekend dormitory program for high school students. Big Brother Big Brothers and Big Sisters of the Bay Area, Milpitas, CA • Served as friend and mentor to a young man through his formative years. Trip Leader Bike & Build, Inc., Brooklyn, NY and Philadelphia, PA • Planned, led, and completed two cross-USA charity bicycle tours for young adults.	Jun 2023 - Present Aug 2012 - Jul 2013 Jan 2011 - Dec 2012 Jan 2006 - Aug 2008
EDUCATION	Massachusetts Institute of Technology, Cambridge, MA <i>Master of Engineering and S.B., Electrical Engineering and Computer Science</i> Grad level operating systems course. Build a kernel and hypervisor in C. Lab assistant for undergraduate microcontroller/firmware course.	
CITIZENSHIP	United States	