# José Hiram Soltren

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## Synopsis

Senior Software Engineer. MIT alum. Cyclist, Pilot, Mechanic.
Seeking Quant Dev, Algo Trading, Trading Tech, Scientific Computing, Infra roles.
*Expert in C, C++, systems, Linux, device drivers, hardware accelerators.*

## Experience

**Founder** Soltren Consulting LLC, Cedar Park, TX — Jan 2014 - Feb 2020

- Implemented support for a novel deep learning inference accelerator for PyTorch and ONNX backends in C++11 and Python.
- Firmware development for computer keyboards in C, C++, and some Rust.

**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.
- 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 a bug that crashed the GPU when playing back some videos.
- Fixed 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.
- Mentored numerous engineers over the years.

**Systems Administrator** D. E. Shaw & Co., L.P. — Jun 2007 - Jun 2008

- Technical support for traders, managing directors, and CEO.
- Numerous improvements to IT process leading to reduced downtime and more alpha.
- Successfully predicted the 2008 financial crisis.

## Education

**Massachusetts Institute of Technology, Cambridge, MA**
*Master of Engineering and S.B.* Electrical Engineering and Computer Science
Grad level operating systems course (6.828). Build a kernel and hypervisor in C.
Lab assistant for undergraduate microcontroller/firmware course (6.115).

**Stuyvesant High School, New York, NY**
Math Team, AP Computer Science (C++98), Linux User Group.

## Citizenship

United States