Victor Isaac Torres Muro

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Summary

Pursuing a M.S. in Computer Engineering at Arizona State University. Currently performing research in computer vision, machine learning and FPGAs as a Research Assistant. Previous experience as a Manufacturing Engineer at the automotive industry. Seeking a full-time position starting Summer 2022.

Education

M.S. Computer Engineering – Arizona State University, Tempe, AZ August 2020 – May 2022

GPA: 3.8 / 4.0

Courses:

- Digital Systems and Circuits
- HW Acceleration and FPGAs
- Computer Vision
- VLSI
- Machine Learning
- Algorithms

Academic Projects:

- **Machine Learning: Object tracker –** Trained custom CNN to perform detection and classification of MNIST digits captured with an event camera.
- **Computer Vision: Denoising NN –** Trained UNet to correct noisy images. Custom dataset generated by simulating photon-shot noise, read noise and ADC noise.
- **VLSI: Convolution + Max-pooling engine design** – Developed a 4x4 convolution engine for deep learning applications and implemented on 7nm CMOS technology. Wrote behavioral System Verilog module. Synthesized using Design Compiler. Performed place-and-route using Innovus. Accomplished DRC and LVS clean in Virtuoso. Assured functional verification at every step.

B.S. Mechatronic Engineering – ITESM, Cd. Juárez, México August 2013 – May 2018

GPA: 94 / 100

Study Abroad semester: Hochshule Esslingen, Germany

Professional Experience

Research Assistant – Imaging Lyceum at ASU August 2020 – Current

- **Adaptive subsampling** – Implemented adaptive subsampling pipeline involving deep learning and other computer vision algorithms on a Xilinx FPGA board. Publication in progress.
- **Event camera object tracker** – Trained off-the-shelf neural networks to detect objects recorded using neuromorphic camera dataset. Summer research project with Astrobotic for Space Force Small Business grant.

Product Coordinator – Robert Bosch GmBH August 2017 – October 2019

- Responsible for activities related to Manufacturing Engineering of Electronic Control Units (ECUs).
- Engineering change management implementation for existing products.
- Coordination of trial runs to meet project deliverables (i.e. Initial samples, EWAK-series, PV-runs).

Technical Skills

Programming: Python (Pytorch, Torchvision, Tensorflow, OpenCV), C++ (basic), MATLAB-Simulink

Other applications: Linux, Command Line, Git, Vitis AI, Vivado, AutoCAD, Solidworks, Microsoft Office

Awards

- **Fulbright-García Robles scholarship** – Binational sponsored grant to study master's degree in the US.