

Manuel Gonzalez-Rivero

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Current Address

909 Shoreline Court
Alameda Ca, 94501

Objective

An impactful position that takes advantage of my background in Deep Learning and Software Engineering.

Education

CARNEGIE MELLON UNIVERSITY, PITTSBURGH, PA

Masters of Science in Electrical and Computer Engineering

Bachelor of Science in Electrical and Computer Engineering With College Honors

Overall GPA: 3.5/4.00

MAY 2009

MAY 2008

Experience

Planet Labs, San Francisco CA, Machine Learning Engineer

- Developed convolutional neural network architectures (U-net/Resnet) for scene classification, feature extraction, and semantic segmentation with a python/tensorflow stack.
- Helped developed GCP machine learning data pipeline for geospatial imagery

FEB 2018-
PRESENT

Pennsylvania State University ARL, State College PA, Research Engineer <www.3dbabove.com>

- Developed convolutional neural networks for automatic detection, estimation, and classification of structures of interest within GIS multi-spectral imagery using GPUs
- Developed active mask segmentation algorithms for the detection, classification, and signature generation of targets captured in short/long wave IR imagery
- Developed evaluation tool that made use of homogeneous k-fold analysis to compare performances of competing target tracking algorithms
- Developed image processing algorithms to operate on a power constrained system that could perform feature extraction, pose estimation, photo stitching, classification, and compression

NOV 2012

FEB 2018

Mango Engineering and Consulting LLC, Sunnyvale CA, Founder <www.3dbabove.com>

- Developed dense signal environments for defense contractors
- Created bit and cycle accurate models used to test satellite FPGA payloads
- Worked on various projects that utilized hardware, mechanical, and software engineering capabilities

FEB 2012-
PRESENT

Brinton Engineering LLC, Menlo Park CA, Partner <www.brintonengineering.com>

- Co-Founded Brinton Engineering.
- Used a variety of skills ranging from hardware, PCB layout, firmware, programming and mechanical engineering to build products ranging from rocket avionics to high precision microscopy to toy industry electronics to ipad applications
- Developed products from coffee shop napkins to full production devices

FEB 2011-
FEB 2012

General Dynamics, San Jose CA, Principal Engineer

- Created satellite payload hardware, firmware, and FPGA code
- Analog Arbitrary waveform generation using MATLAB and Agilent hardware

AUG 2010-
APR 2011

Lockheed Martin, San Jose CA, Hardware Engineer

- Developed image processing algorithms in MATLAB to correct for atmospheric disturbances
- Implemented algorithms on a Virtex 6 FPGA
- Created a complete signal synthesis environment to test communications systems
- Invented communication constellations for higher level modulation schemes

JUN 2009-
JUL 2010

BBN Technologies Intern, Arlington VA.

- Created software to facilitate field testing of DSP hardware for a successful preliminary design review
- Rediscovered NDFT techniques to gain high resolution renderings of the DTFT
- Worked with vibrometry data to segment regions of interest

JUN 2008-
AUG 2008

Teaching Assistant, Signals and Systems (18-396)

- Developed laboratory assignments through testing and providing critical feedback
- Created solutions bi-weekly for lab assignments and grade lab submission
- Held office hours to help students through difficult material

AUG 2007-
DEC 2008

Publications

“Active Mask Segmentation For The Cell-Volume Computation Of HeLa Cell Images” 2008 (ISBI)

“Design of a Modular Snake Robot” 2007 (IROS)

Skills

Python, tensorflow, C/C++, ANTLR, MATLAB, CUDA, OpenCV, Altium, Git, Unix/Linux/Windows Dev

