

# Manuel Gonzalez-Rivero

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## Current Address

333 South Glebe Rd  
Arlington VA, 22204

<b>Objective</b>	A position that takes advantage of my background in Deep Learning and Software Engineering to deliver tangible and impactful technological solutions to the real world.	
<b>Education</b>	<b>CARNEGIE MELLON UNIVERSITY, PITTSBURGH, PA</b> 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
<b>Experience</b>	<b><i>Pennsylvania State University ARL, State College PA, Research Engineer &lt;www.3dbabove.com&gt;</i></b> <ul style="list-style-type: none"><li>Developed convolutional neural networks for automatic detection, estimation, and classification of structures of interest within GIS multi-spectral imagery using GPUs</li><li>Developed active mask segmentation algorithms for the detection, classification, and signature generation of targets captured in short/long wave IR imagery</li><li>Developed evaluation tool that made use of homogeneous k-fold analysis to compare performances of competing target tracking algorithms</li><li>Developed image processing algorithms to operate on a power constrained system that could perform feature extraction, pose estimation, photo stitching, classification, and compression</li></ul> <b><i>Mango Engineering and Consulting LLC, Sunnyvale CA, Founder &lt;www.3dbabove.com&gt;</i></b> <ul style="list-style-type: none"><li>Developed dense signal environments for defense contractors</li><li>Created bit and cycle accurate models used to test satellite FPGA payloads</li><li>Worked on various projects that utilized hardware, mechanical, and software engineering capabilities</li></ul> <b><i>Brinton Engineering LLC, Menlo Park CA, Partner &lt;www.brintonengineering.com&gt;</i></b> <ul style="list-style-type: none"><li>Co-Founded Brinton Engineering.</li><li>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</li><li>Developed products from coffee shop napkins to full production devices</li></ul> <b><i>General Dynamics, San Jose CA, Principal Engineer</i></b> <ul style="list-style-type: none"><li>Created satellite payload hardware, firmware, and FPGA code</li><li>Analog Arbitrary waveform generation using MATLAB and Agilent hardware</li></ul> <b><i>Lockheed Martin, San Jose CA, Hardware Engineer</i></b> <ul style="list-style-type: none"><li>Developed image processing algorithms in MATLAB to correct for atmospheric disturbances</li><li>Implemented algorithms on a Virtex 6 FPGA</li><li>Created a complete signal synthesis environment to test communications systems</li><li>Invented communication constellations for higher level modulation schemes</li></ul> <b><i>BBN Technologies Intern, Arlington VA.</i></b> <ul style="list-style-type: none"><li>Created software to facilitate field testing of DSP hardware for a successful preliminary design review</li><li>Rediscovered NDFT techniques to gain high resolution renderings of the DTFT</li><li>Worked with vibrometry data to segment regions of interest</li></ul> <b><i>Teaching Assistant, Signals and Systems (18-396)</i></b> <ul style="list-style-type: none"><li>Developed laboratory assignments through testing and providing critical feedback</li><li>Created solutions bi-weekly for lab assignments and grade lab submission</li><li>Held office hours to help students through difficult material</li></ul>	NOV 2012- PRESENT  FEB 2012- PRESENT  FEB 2011- FEB 2012  AUG 2010- APR 2011  JUN 2009- JUL 2010  JUN 2008- AUG 2008  AUG 2007- DEC 2008
<b>Publications</b>	“Active Mask Segmentation For The Cell-Volume Computation Of HeLa Cell Images” 2008 (ISBI) “Design of a Modular Snake Robot” 2007 (IROS)	
<b>Skills</b>	Python, tensorflow, C/C++, ANTLR, MATLAB, CUDA, OpenCV, Altium, Git, Unix/Linux/Windows Dev	