nicocasale m.s. student, they/them pronouns

contact

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coding CUDA/HLSL

C++/C# MATLAB Python **LATEX**

languages

native english skilled spanish basic italian french german

interests

GPU programming, machine learning, computer graphics

education

2017-2018 M.S. candidate in Electrical Engineering North Carolina State University (NCSU) non-thesis, courses in data science, machine learning, random processes, digital image/signal processing, linear algebra, computer architecture

2012-2017 **B.S.** summa cum laude (3.84 GPA) Electrical Engineering, specialization in Computer Engineering

2008-2012 high school diploma Independence/Butler High Schools score of 5/5 on six AP exams, Academy of International Studies student

NCSU

NCSU

experience

2016-2017 independent research

GPU acceleration of an algorithm using NVIDIA's CUDA/C++, under guidance of Dr. Dror Baron. ~28x speedups achieved with a Tesla K80 for multiprocessor approximate message passing (MP-AMP)

08-12 2014

06-12 2015 cooperative education internship

Analog Devices, Inc., Greensboro, NC worked on communications infrastructure team under John Oates, Systems

Engineer. Accompanied project through three hardware revisions.

Moved project forward with:

- · improved software
 - program to present board capability to customers
 - automation suite to characterize performance of board
- improved hardware
 - maintenance and modification of surface mount PCB components
 - schematic changes (Cadence Allegro PCB Planner)

projects

since 2018	open source project contributions in python and C++ githul	b
	OpenMined is a homomorphically-encrypted federated learning platform that seeks to provide a secure and sustainable way of training neural networks	it
02-05 2018	linear discriminant analysis and decision trees in MATLAB githul for ECE 759, LDA and Decision Trees were trained on MNIST and Ext. Yale Face Database B to garner an understanding of machine learning techniques	е
since 2017	computer graphics in C++ and MATLAB instagram (some code on github using mathematics and image processing concepts to generate art; working with OpenFrameworks (C++), MATLAB, and Google's search API in Python	/

anon course preject contributions in mython and C.

since 2018	music review website in React (Javascript) a project built with friends to host all of our gra	
2017	orthographic projection in MATLAB given a photo of a box and its closest corner is box and creates a 3-D model	ECE 592 (digital image processing) in image, program finds faces of
2016	internet of things (IoT) 'car' built a small remote-controlled car with variouments MSP430 Microcontroller, programmed	

presentations

08 2017	poster at undergraduate research symposium GPU implementation of row-wise approximate message passing (AMP) speedup of ~28x achieved with CUDA/C++	NCSU)
04 2017	poster at senior design day Keg It Out: an IoT beer monitoring service for brewers to optimize distril culmination of the Engineering Entrepreneurship Program for senior de	

volunteering

06 2017	cooking & serving food at day-shelter served food to some of Raleigh's homeless and at-risk pop	love wins ministries
2016	family STEM nights local eleme facilitated interactive engineering experiments for K-12 study	entary & middle schools dents
2016	peer tutor for Eta Kappa Nu (HKN, ECE honor society) offered free help to undergraduates in ECE courses	on campus
2013-2016	SOUL Garden volunteer student-run garden which donates food to those in need	on campus
2015 & 2016	annual Service Raleigh volunteer yearly event to bring many volunteers to the Raleigh area	raleigh

extracurriculars

since 2016	facilitator/host, Wake Up Raleigh mindfulness group with weekly events, community engagement
2013-2015	president, Buddhist Philosophies Club organized events, led discussions, community engagement and leadership
2016-2017	Co-Op ambassador informed students about the Co-Op program at State; opportunity to demonstrate leadership and character
since 2008	poetry & music writing published in the 49 th -51 st annual editions of NCSU's artistic and literary book