

Aiden Cullo

aidencullo@gmail.com
aidencullo.com

EDUCATION

SUNY Binghamton	<i>Binghamton, NY, USA</i>
B.S. Mathematics	May 2020
B.S. Applied Physics	Aug 2020
B.S. Computer Science	Aug 2020
summa cum laude	

RELEVANT EXPERIENCE

UT Austin	Aug 2020—Jan 2021
<i>PhD Candidate</i>	<i>Austin, TX, USA</i>
Investigated quantum computing information bit candidates via two-dimensional nanoparticles and virtual particles.	
SUNY Binghamton	Oct 2020—Nov 2020
<i>Research Assistant</i>	<i>Binghamton, NY, USA</i>
Employed an evolutionary search algorithm for stable-alloy nanocrystal structures using C and openMP . Helped parallelize MAISE software package for use by wider computational physics community.	
California Institute of Technology	Jun 2019—Aug 2019
<i>SURF Research Fellow</i>	<i>Pasadena, CA, USA</i>
Performed scanning tunneling microscopy/spectroscopy of topological defects in semiconductor surface state of pure and Cr-doped $(\text{BiSb})_2\text{Te}_3$ -bi-layer topological insulators.	
Sapienza University of Rome	Jun 2018—Aug 2018
<i>Research Assistant</i>	<i>Rome, Italy</i>
Constructed a convolutional neural network with python to classify particle collisions for the DarkSide-20k experiment. Generated and trained on 30,000 nuclear and recoil data points with 97.5% accuracy.	
NASA	Jun 2017—Aug 2017
<i>Software Engineer Intern</i>	<i>Mountain View, CA, USA</i>
Built a library in C++ and MATLAB to interpret 1000+ battery metadata indicators with varying degrees of uncertainty and loss for autonomous, mission-critical drone fleets of up to 100.	

VOLUNTEER WORK

Annunciation House	Mar 2022—Jun 2022
<i>Shift Coordinator</i>	<i>El Paso, TX, USA</i>
Helped refugees detained by border patrol reconnect with their families or sponsors, travel to their host cities, and attend their mandated court appearances.	
Casa Tochan	Jan 2022—Mar 2022
<i>Volunteer</i>	<i>CDMX, Mexico</i>
Aided migrants in finding jobs, renting apartments, and petitioning the government for asylum, residency, citizenship, driver's licenses, work permits, and vaccinations.	
Tree of Hopes	Oct 2021—Nov 2021
<i>Volunteer</i>	<i>Juárez, Mexico</i>
Coordinated with sponsors, lawyers, police, government officials, and healthcare professionals to support 500+ migrants and safeguard their civil and informational rights.	

SKILLS

Languages:	English (<i>native</i>), Spanish (<i>fluent</i>), French (<i>elem.</i>), Portuguese (<i>elem.</i>)
Programming Languages:	C++, C, Java, Python, JavaScript, MATLAB, OpenMP, SQL, Lisp, Clojure, L ^A T _E X
Technologies:	Linux, macOS, Windows, Docker, Git, Vim, Emacs, Bash, Zsh, React.js, Node.js

PUBLICATIONS

1. Samad Hajinazar, Ernesto D. Sandoval, Aiden J. Cullo, and Aleksey N. Kolmogorov. Multitribe evolutionary search for stable Cu—Pd—Ag nanoparticles using neural network models. *Phys. Chem. Chem. Phys.*, 21:8729–8742, 2019