Aiden Cullo

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EDUCATION

SUNY Binghamton *Binghamton, NY, USA*

  B.S. Mathematics **May 2020**
  B.S. Applied Physics **Aug 2020**
  B.S. Computer Science **Aug 2020**
  summa cum laude

EXPERIENCE

Tradigro **Nov 2022 - Present**
Software Developer *Chicago, IL*

    Programming full-stack design, functionality, and data processing using **Vue.js** and **Vuex** libraries integrated with a backend **mongoDB** data management client.

Supercerebro **Oct 2022 - Apr 2023**
Software Developer *Bogotá, Colombia*

    Developed a PWA using a **React** full-stack model and a multi-platform **Ionic** deployment scheme. Implemented backend services through **Google Firebase** in order to store credentials, preferences, and progress.

SUNY Binghamton **Oct 2020—Nov 2020**
Research Assistant *Binghamton, NY*

    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**
SURF Research Fellow *Pasadena, CA*

    Performed scanning tunneling microscopy/spectroscopy of topological defects in semiconductor surface state of pure and Cr-doped $(BiSb)_2Te_3$-bi-layer topological insulators.

Sapienza University of Rome **Jun 2018—Aug 2018**
Research Assistant *Rome, Italy*

    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.

National Aeronautics and Space Administration (NASA) **Jun 2017—Aug 2017**
Software Engineer Intern *Mountain View, CA*

    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.

VOLUNTEERING

Annunciation House **Mar 2022—Jun 2022**
Shift Coordinator *El Paso, TX*

    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**
Volunteer *CDMX, Mexico*

    Aided migrants in finding jobs, renting apartments, and petitioning the government for asylum, residency, citizenship, driver's licenses, work permits, and vaccinations.

SKILLS

Languages: English (*native*), Spanish (*fluent*), French (*elem.*), Portuguese (*elem.*)

Programming Languages: C++, C, Java, Python, JavaScript, TypeScript, PHP, MySQL, Lisp, Clojure, LaTeX

Technologies: React, Node, Vue, Vite, Ionic, Firebase, MongoDB, Ubuntu, Git, Emacs, VS Code, Vim, Bash, Zsh

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