

Aiden Cullo

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github.com/aidencullo

EDUCATION

SUNY Binghamton

B.S. Mathematics
B.S. Applied Physics
B.S. Computer Science
summa cum laude

Binghamton, NY, USA

May 2020

Aug 2020

Aug 2020

EXPERIENCE

Herogrow

Software Developer

Design the **Vue** frontend architecture for user portal, dashboard, and data flow. Manage backend data requests with **Node** server and application state variables via a **Pinia** store.

Apr 2023 - Present

Chicago, IL

Tradigro

Software Developer

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

Nov 2022 - Mar 2023

Chicago, IL

Supercerebro

Software Developer

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.

Oct 2022 - Nov 2022

Bogotá, Colombia

SUNY Binghamton

Research Assistant

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.

Oct 2020—Nov 2020

Binghamton, NY

California Institute of Technology

SURF Research Fellow

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

Jun 2019—Aug 2019

Pasadena, CA

Sapienza University of Rome

Research Assistant

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.

Jun 2018—Aug 2018

Rome, Italy

National Aeronautics and Space Administration (NASA)

Software Engineer Intern

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.

Jun 2017—Aug 2017

Mountain View, CA

VOLUNTEERING

Annunciation House

Shift Coordinator

Helped refugees detained by border patrol reconnect with their families or sponsors, travel to their host cities, and attend their mandated court appearances.

Mar 2022—Jun 2022

El Paso, TX

SKILLS

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

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

Technologies: React, Vue, Angular, Vite, Node, Ionic, Firebase, MongoDB, Ubuntu, Git, Emacs, 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