# Aiden Cullo

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## SUMMARY

Seasoned full stack developer with 3+ years of experience in database management, data-driven web applications, and API design. Proven track record of enhancing user experience, achieving measurable performance gains, and optimizing system efficiency. Seeking to leverage technical expertise and backend experience to build scalable, user-centric, and innovative software solutions at a growth-stage startup.

## SKILLS

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| **Programming Languages:** | Python, JavaScript, TypeScript, C++, C, Java, Ruby, SQL, Go, Haskell, PHP, Rust, Swift |
| **Web:** | React, Vue.js, Angular, Node.js, Ruby on Rails, FastAPI, Flask, Django, Next.js, Express, Dart |
| **Databases:** | PostgreSQL, MySQL, SQLite, Firebase, Redis, Cassandra, Oracle, DynamoDB, MongoDB |
| **Tools:** | Git, Docker, Kubernetes, Jenkins, Apache, Nginx, AWS, Azure, GCP, Heroku, Netlify, Vercel |
| **Spoken Languages:** | English (*native*), Spanish (*fluent*), French (*proficient*), Portuguese (*basic*), Mandarin (*basic*) |

## EXPERIENCE

**JPMorgan Chase** — Software Engineer                                    **Sep 2024—Present**
- Engineered an **LLM** usage tracking system, ensuring full visibility and reducing undocumented activity by 80%.
- Scaled backend for storing and versioning **ML** artifacts, supporting 1k pipelines, and reducing access time by 60%.
- Built a landing page to track the usage of 1k+ models for compliance with federal and state regulations.
- Enhanced **AWS** logs with requester details (ID, IP, department), improving traceability across 25M+ monthly events.

**HeroGrow** — Software Engineer                                         **Apr 2023—Sep 2024**
- Developed a **Ruby on Rails** REST API to manage venue seating layouts, allowing real-time ticket reservations.
- Integrated **JavaScript** Turbo Frames into the browser UI, allowing partial page updates, reducing load times by 50%.
- Implemented OAuth2-based authentication, streamlining sign-in processes and increasing user registrations by 25%.
- Integrated Square payments API into the customer checkout form, resulting in a 10% reduction in abandoned carts.

**Tradigro** — Software Engineer                                          **Dec 2022—Apr 2023**
- Indexed **Vue.js** journals, trades, and achievements views, allowing more granular and searchable public content.
- Decoupled raw trade and statistical analysis modules, reducing duplicate feed publications upon user profile updates.
- Standardized text encoding format in **Vuex** frontend data store, eliminating 95% of incorrect comment representations.
- Refactored the data upload protocol, serializing I/O on trade files, preventing information loss from race conditions.

**SuperCerebros** — Software Engineer                                      **May 2021—Dec 2022**
- Built a progressive web application in **React**, deployed to 10k+ domestic and international users.
- Integrated mobile and desktop applications via Ionic SDK and **TypeScript**, cutting total server requests in half.
- Architected DBMS with **Google Firebase**, storing 1TB of user data while maintaining sub-5ms latency.

**SUNY Binghamton** — Research Assistant                                   **Aug 2018—Nov 2020**
- Tuned evolutionary search algorithm for nanocrystal structures in **C** to obtain stabler ground states 90% of the time.
- Achieved 50% speedup of the open source **MAISE** library via parallelization with **OpenMP** toolkit.
- Automated neural network training with **Bash** scripts, reducing the iteration cycle from 100 to 20 hours.

**Caltech** — Physics Fellow                                              **Jun 2019—Aug 2019**
- Performed scanning tunneling microscopy of topological defects in $(BiSb)_2Te_3$-bi-layer topological insulator substrates.

**Sapienza University of Rome** — Software Engineer Intern                **Jun 2018—Aug 2018**
- Built a multi-layer convolutional neural network in **Python**, classifying particle collisions with 99.5% accuracy.
- Generated 20k training samples based on weakly interacting massive particle (WIMP) theoretical models.

## PROJECTS

**pipenv** — Contributor                                                  **Dec 2023—Present**
- Migrated Click library to Rich and argparse tooling, reducing the package size by 1MB and cutting vendor dependencies.

## EDUCATION

**SUNY Binghamton**                                                       **Class of 2020**
- BS Computer Science, *Watson School of Engineering*
- BS Mathematics, *Harpur College of Arts and Sciences*
- BS Applied Physics, *Harpur College of Arts and Sciences*