

# RAMAN ARORA

**Software Engineer & Product Designer | Experience in Startups, ML, Full-Stack, Design & Research**

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## EDUCATION

**UNIVERSITY OF CALIFORNIA, LOS ANGELES**

**Los Angeles, CA**

**Bachelors of Science in Computer Science & Engineering**

**2025-2029**

**DUBLIN HIGH SCHOOL**

**Dublin, CA**

## PROFESSIONAL EXPERIENCE

**AXIUM, FOUNDERS INC.**

**San Francisco, CA**

**Technical Team Lead**

**May 2025 - August 2025**

*Founders Inc. Off-Season - San Francisco, CA (Startup incubator program with < 2% acceptance rate)*

- Collaborated with founding team in building a pre-seed Robotics-as-a-Service (RaaS) startup that develops robotic arms for any manufacturer to detect & sort out defective products in their assembly lines
- Refactored & deployed the company's full-stack website using FastAPI & ReactJS
- Built a real-time dashboard monitoring all product-line related analytics reported by clients' robots
  - Utilized AWS infrastructure by enabling the robot to upload live camera feed to S3 buckets & MongoDB and then display defects real-time using Lambda functions & client-side polling
  - Created a GPT-based agent that easily classifies defects off of S3 images and summarizes those results alongside other product-line data in automated reports for manufacturers to later access
- Contributions enabled the company to land a pilot program with Delphon, a biomedical client

**TERMINAL33**

**San Francisco, CA**

**ML Engineer Intern**

**May 2024 - September 2024**

*Up-and-coming stealth startup that provides AI-based services for customers using e-commerce based platforms*

- Researched and evaluated various NLP-based searching models that could improve product result generation across e-commerce catalogs
- Interacted with OpenAI and CLIP models to generate and compare vector embeddings of text and images
- Indexed & stored information into vector databases like Weaviate, and performed vector similarity searches using search queries to create an optimal searching framework for future clients

**PROJECT CATALYST**

**San Francisco, CA**

**Co-Founder**

**March 2023 - December 2024**

- Founded a national student-led organization across CA, NJ, and GA to provide career exploration opportunities for students interested in engineering and biotechnology
- Organized and led hands-on workshops across 11 organizations globally (i.e. World Federation of Engineering Organizations, Johnson & Johnson, Girls Inc, etc.) to teach high school students engineering principles
- Developed a MERN full-stack LMS website hosting two courses for students to learn STEM concepts

## PROJECTS

**OLFACTOORY RECEPTOR BASED CANCER DRUG DISCOVERY: BIOINFORMATICS**

**March 2024 - January 2025**

- Independently led group to create a research project that placed second place categorically at Regeneron ISEF (International Science and Engineering Fair) & write research paper
- Discovered 2 potential drugs capable of binding to olfactory receptors and annihilating prostate cancer cells
- Designed a novel *in-silico* pipeline in collaboration with biochemists from UCSF and University of St. Joseph to screen through 1M+ compounds using HTVS-based molecular docking in Schrödinger Maestro
- Developed & trained a support-vector machine (SVM) using only 30 known agonists and data-augmentation techniques like SMOTES and DUDE non-agonist decoys to determine the bioactivity of drugs

## SKILLS

- **Programming & ML:** Python, Java, C++, Neural Networks, Self-Organizing Maps, YOLO
- **Web Development:** HTML, CSS, JavaScript, React, Node.js, Express, MongoDB, MySQL, REST API, FastAPI
- **Cloud & Databases:** AWS (S3 & Lambda), Weaviate, Vector Embedding
- **Bioinformatics:** Schrödinger Maestro, AutoDock Vina, VSFlow, PyMOL
- **Digital Media:** Adobe Photoshop, Adobe Premiere Pro, Figma, Canva