Ethan Tran

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EDUCATION

Diamond Bar High School — **Diamond Bar, CA**
High School Diploma | GPA (UW, W): 4.00, 4.59 | Class Rank: 1/615 — May 2027
Relevant Coursework: AP Calculus AB & BC, AP Chemistry, AP Computer Science A, Biology, Computer Systems, Industrial Engineering
AP Scores: AP Calculus BC - 5; AP Calculus AB - 4 (Subscore 5); AP Chemistry - 4; AP Computer Science A - 5; AP English Language and Composition - 5; AP U.S. Government - 5; AP U.S. History - 4; AP European History - 4; AP Precalculus - 4

Mt. San Antonio College — **Walnut, CA**
College Coursework, 4.0 GPA
Relevant Coursework: BIOL 4 (Biology for Majors), AHIS 6 (History of Modern Art), BUSC 1A (Principles of Macroeconomics)

RESEARCH EXPERIENCE

Barron Lab - Stanford University School of Medicine — **Stanford, CA**
Research Intern | Mentors: Laurent Bekale, PhD; Annelise Barron, PhD — Jun. 2026 - Present
- Investigating binding between the NLRP3 inflammasome, implicated in Alzheimer's disease, and the human peptide LL-37 using protein docking and structural modeling.
- Applying AI-assisted analysis to identify candidate binding sites and evaluate NLRP3 domains, complemented by hands-on laboratory experiments.
- Mapping Alzheimer's-associated genes in collaboration with Dr. James J. Truchard and Benjamin Gustafsson.

Computational Biology and Disease Genomics Lab - UC Irvine School of Medicine — **Irvine, CA**
Research Intern | Mentors: Ya Allen Cui, PhD (PI); Weifan Yin, MD, PhD — Jun. 2026 - Present
- Processed and quality-controlled large-scale GWAS summary statistics for myasthenia gravis, major depression, bipolar disorder, and anxiety using Python, R, and Linux/Bash.
- Performed LDSC genetic-correlation and R-based colocalization analyses; used FUMA SNP2GENE and GENE2FUNC to annotate risk loci, prioritize genes, and evaluate pathway enrichment.
- Reviewed candidate genes associated with neurodevelopmental disorders and epilepsy, synthesizing phenotypes, inheritance patterns, molecular mechanisms, evidence strength, and key literature.

Calla Lab - UC Riverside Department of Psychology — **Riverside, CA**
Research Intern | Mentor: Jasmine Ford; Principal Investigator: Rachel Wu, PhD — Jun. 2026 - Present
- Investigating chronic occupational stress and HPA-axis dysregulation, focusing on inflammation, brain connectivity, learning, memory, and daily cognitive function.
- Evaluating acute versus chronic stress, limitations of current wellness interventions, and lifelong learning as a strategy to support healthy cognitive aging.
- Contributing to a review manuscript in preparation that synthesizes evidence on HPA-axis dysregulation and learning-based interventions while identifying priorities for future research.

UCSC Science Internship Program (SIP) - CPM-07: AI-Facilitated Group Formation and Project Ideation for Hackathons — **Santa Cruz, CA**
Research Intern | Mentor: Alexander Sherbrooke; Faculty Advisor: David Lee, PhD — Summer 2026
- Developed an AI/LLM-powered chatbot within Blossom to support hackathon group formation and project ideation; selected as one of 320 SIP students from 4,000+ qualified applicants.
- Built on Blossom's survey-driven human-bingo platform and prompt-engineered and tested AI-generated icebreakers, bonding activities, and ideation experiences.
- Researched group ideation and collaborative activity design grounded in prior human-computer interaction and social-computing work.

CLINICAL EXPERIENCE & VOLUNTEERING

Epic Care — **Oakland, CA**
Clinical Observer | Mentor: Bao Dao, MD, Hematologist/Oncologist — Jun. 2025 - Aug. 2025
- Completed a summer of clinical observation under Bao Dao, MD, a hematologist/oncologist, observing consultations, cancer diagnostics, treatment planning, oncology workflows, and chemotherapy protocols.
- Examined patient-centered clinical reasoning and how physicians communicate complex diagnoses, options, expectations, and care plans to patients and families.

Pomona Valley Hospital — **Pomona, CA**
Volunteer — Jun. 2024 - Present
- Earned 200+ volunteer hours supporting hospital operations and patient-facing services, including assisting Telemetry Unit staff with clinical tasks and patient needs.
- Carried out service tasks that improved daily patient, visitor, and staff experiences.

American Red Cross — **Los Angeles, CA**
President & Volunteer — Aug. 2023 - Present
- Earned 250+ volunteer hours through community service, leadership initiatives, and preparedness events.
- Completed leadership camp training in teamwork, responsibility, and service; learned hands-only CPR and supported community-readiness activities.

PROJECTS & EXPERIENCE

PulmoSight **pulmosight.org**
AI/ML Developer 2026
- Developed a privacy-first, browser-based chest X-ray research tool using an InceptionV3 machine-learning model trained on 100,000 NIH ChestX-ray14 images to score 11 thoracic findings plus 'No Finding' and generate model-attention heatmaps.
- Deployed local inference with ONNX Runtime Web so de-identified images remain on-device; achieved a 0.807 macro AUROC across disease labels on a patient-separated, held-out NIH test set of 2,500 images.

Blossom AI Chatbot **Santa Cruz, CA**
AI/LLM Developer | UCSC Science Internship Program (SIP) | tech4good-blossom-sip.web.app Summer 2026
- Developed a conversational AI co-pilot that guides event organizers in creating participant surveys and personalized human-bingo boards for large in-person events.
- Implemented session-based conversation memory, prompt-engineered guardrails, and schema-driven tool calls with Python, FastAPI, and the Bayleaf API to generate structured survey and board content.
- Integrated the chatbot into Blossom's live web interface and conducted comparative user testing; all participants preferred the AI-assisted workflow over the original process.

Personal Portfolio Website **ethanlytran.com**
Developer 2026
- Developed and launched a multi-page ethanlytran.com portfolio showcasing research, projects, leadership, and contact information.
- Maintained the site as a digital portfolio for academic programs, internships, leadership roles, and future opportunities.

Travel Planning Website **Diamond Bar, CA**
Developer 2026
- Developed a travel-planning website for my friends and me to organize trips, compare booking options for flights and hotels, and coordinate plans.
- Created shared trip information, group decision-making, and collaborative calendar features to centralize major travel logistics.

LEADERSHIP & ACTIVITIES

WeBall **Diamond Bar, CA**
Founder, President Sep. 2024 - Present
- Organized volunteer basketball events for 50+ club members and connected 10+ experienced players with younger students through mentorship.
- Taught hundreds of students basketball fundamentals through outreach programs led by experienced student athletes.

Asian Pacific Islander Student Union (APISU) **Diamond Bar, CA**
President Dec. 2024 - Present
- Led cultural-awareness activities highlighting Asian and Pacific Islander traditions, communities, and service initiatives; planned events and managed meetings with fellow officers.
- Supported LA wildfire-related volunteering and promoted student participation in cultural education and service opportunities.

Future Business Leaders of America (FBLA) **Diamond Bar, CA**
Officer Nov. 2023 - Present
- Represented Diamond Bar High School in regional and state business competitions spanning financial math, information technology, sports and entertainment management, and digital video production.
- Organized a mock competition for 100+ competitors preparing for regionals while strengthening leadership, communication, business analysis, and rapid preparation skills.

Diamond Bar High School Basketball Team **Diamond Bar, CA**
Varsity Player Sep. 2023 - Present
- Member of the varsity basketball team while maintaining a rigorous academic course load and consistent training schedule.
- Built discipline, resilience, and teamwork by competing in high-pressure athletic environments.

AWARDS & HONORS

- Brahma Tech Honor Roll (2024, 2025)
- Top Ten Student (2024)
- Gold Presidential Volunteer Service Award
- AP Scholar with Distinction
- Humanitarian and International Law Advocate
- FBLA - 1st Place, Introduction to Financial Math (Regionals)
- FBLA - 3rd Place, Sports & Entertainment Management (State)
- FBLA - 6th Place, Introduction to Information Technology (Regionals)
- FBLA - 9th Place, Digital Video Production (State)
- HOSA - 8th Place, Creative Problem Solving (State)

SKILLS & INTERESTS

Technical: Python, R, Linux/Bash, GWAS, LDSC, FUMA, TensorFlow, ONNX Runtime Web, Excel, LLM prompt engineering, AI chatbot development, website development

Clinical & Medical: Clinical observation, patient-centered communication, oncology care workflow familiarity, chemotherapy protocol exposure, cancer diagnostic process familiarity, telemetry-unit support, medical literature review, hands-only CPR

Languages: English, Vietnamese, Mandarin

Strengths & Interests: Leadership, teamwork, problem-solving, communication, video games, basketball, baking

Research Interests: Computational biology, disease genomics, Alzheimer's disease, neuroinflammation, protein modeling, and cognitive aging