Alexander K. Nite

510-709-9555 | me@alexnite.com | linkedin.com/in/alex | github.com/alex

RESEARCH INTEREST

I am deeply interested in immunology, with a particular focus on autoimmune disorders. My passion lies in understanding the mechanisms underlying these diseases and exploring innovative approaches to their study. By integrating my programming expertise with immunological research, I aim to contribute to the development of computational models and tools that enhance our understanding of immune system dynamics and support the discovery of novel therapeutic strategies.

EDUCATION

California State University, Monterey Bay Seaside, CA
Bachelor of Science in Kinesiology, Minor in Computer Science *Aug. 2020 – Present*

Ohlone College Fremont, CA
 Aug. 2018 – Jan. 2022

RELEVANT COURSEWORK

Human Anatomy & Physiology: Mastered identifying and understanding physiological processes of body structures and tissues in humans

General Chemistry I: Practiced safe laboratory techniques and procedures such as titration, spectrophotometry, and dilutions. Proved the ability to comprehend general chemistry concepts such as stoichiometry, thermochemistry, kinetics, chemical bonding and formulas.

General Biology I: Practiced safe molecular biology laboratory techniques and procedures such as enzymatic assay and spectrophotometry, DNA isolation, the polymerase chain reaction, agarose gel electrophoresis, recombinant gene expression, genome sequencing, bioinformatics, protein purification ELISA technique, and microscopy.

Introduction to Data Structures: Excelled in using a variety of data structures in the programming language Java, such as arrays, linked lists, stacks, queues, trees, and graphs.

Exercise is Medicine On-Campus: As a student leader, created and implemented free exercise programs to encourage students and faculty on campus to engage in physical activity. Specifically, administered a peer mentoring program to help students identify their physical activity goals, barriers, and facilitators while guiding them through a simple circuit workout plan.

RESEARCH EXPERIENCE

NHGRI GREAT Scholar Summer Research Program at CSUMB June 2024 – Aug. 2024
Jönsson Lab at the University of California, Santa Cruz *Santa Cruz, CA*
AI Meets Immunology: Predicting TCR-pMHC Interactions

- Collected and wrangled bulk TCR-antigen paired data from public databases.
- Performed data encoding and augmentation techniques to benchmark model performance against augmented and unaugmented datasets.
- Trained a CNN machine learning model using encoded and augmented TCR-pMHC sequence pairs.
- Practiced using Git to manage project progress and collaborate with others.

VOLUNTEER EXPERIENCE

Intern Aug. 2023 – Dec. 2023
Power Over Parkinson's *Monterey, CA*

- Assisted Personal Trainers in facilitating low to moderate intensity circuit exercises and specialized dance classes in weekly 1 hour classes that aim to mitigate symptoms of Parkinson's Disease (approximately 30 participants per day).
- Approximately 30 hours total

Blood Lab Volunteer   July 2022 – November 2022
Veteran Affairs Medical Center   *Palo Alto, CA*
- Maintained organizational skills by sanitizing, restocking, and preparing working areas for sterile blood collection.
- Practiced effective communication in a professional environment by greeting and checking in patients (approximately 25 per day).
- Learned proper venipuncture techniques by observing Phlebotomists performing sterile specimen collection.
- Educated on the importance of confidentiality when handing private personal information when transporting specimens from the blood bank to the laboratory for testing.

Volunteer   Aug. 2021 – Dec. 2021
Meals on Wheels   *Pacific Grove, CA*
- Prepared donated foods to be cooked and plated by the staff.
- Practiced fine dining skills by greeting and serving patrons.
- Sanitized and restocked the kitchen and dining hall.
- Approximately 25 hours total

Honors and Awards

2024 CSUMB Summer Symposium Outstanding Research Poster Award   Aug. 2024
AI Meets Immunology: Predicting TCR-pMHC Interactions

- Maintained an organized and readable poster
- Demonstrated extensive knowledge of immunology, data wrangling, and machine learning models
- Conveyed thorough understanding of project methodologies

NHGRI GREAT Scholars   Jan 2024 – Present
Genome Research Experiences to Attract Talented Undergraduates Preparation
- Program includes mentoring, professional development, workshops, and coursework for a mentored summer research experience related to genomics.

College of Health and Sciences and Human Services Dean's List   Aug. 2021 – Present
- Maintained over a 3.5 GPA while enrolled in at least 12 units per semester.

Extracurriculars

2023 ICPC Pacific Northwest Regional Contest – Division II   Feb. 2024
Ranked 42 out of 71
- Competed at a Regional International Collegiate Programming Contest including Washington, Oregon, Northern California, British Colombia, North Idaho, and Hawaii
- Collaborated with two other team members to solve 5 out of 12 varying problems featuring different data structures, algorithms, dynamic programming, and more.

Skills and Training

Languages: English, Spanish, Tagalog, American Sign Lanugage
Certifications: Certified Phlebotomy Technician I, Basic Life Support for Healthcare Providers
Skills: Google Workspace, Canvas, Microsoft Workspace, Java, Javascript, HTML, CSS, C++, Python