Daniel Chang

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Education

University of California, Los Angeles (UCLA)   *September 2022 - Current*
Major: Computational and Systems Biology
GPA: 3.714

Experience

Eagle Scout, Santa Clarita
Chaplain's Aide, Troop Guide, Scribe   *January 2016 - January 2022*
- Developed and delivered opening and closing statements for Eagle Scout and weekly ceremonies, showcasing expertise in public speaking and effective communication skills.
- Mentored new scouts in the completion of rank advancement tasks, utilizing a proactive and constructive approach to support their growth and development.
- Attended and participated in various merit badge classes covering diverse outdoor and life skills, gaining proficiency in a range of subject areas and demonstrating a commitment to continuous learning.
- Conceptualized, planned, and executed a wood restoration project for an outdoor resting structure outside my church, exhibiting advanced project management skills and technical expertise in construction and refurbishment.

Seoul Broadcasting System (SBS), Los Angeles
Internship, Media Production Assistant   *October 2020 - May 2022*
- Facilitated the information dissemination process on the news channel by transferring reporter lines onto the teleprompter system for seamless on-air delivery.
- Ensured optimal recording quality of anchor scenes by meticulously timing slide displays and skillfully cutting and recording each segment.
- Provided operational support for news segment recordings by expertly setting up cameras, configuring lighting equipment, and directing the teleprompter system for the news anchor's delivery.

District Office for Assemblymember Miguel Santiago, Los Angeles
Internship, Communications and Outreach Associate   *June 2021 - July 2021*
- Plan and execute events for the 53rd district (Koreatown, Downtown LA, Boyle Heights).
- Handle incoming phone calls for the district office, addressing constituent concerns regarding unemployment benefits and bills
- Proficient in graphic design software to produce visually appealing flyers for events and certifications for volunteers/small businesses.
- Assist in community-wide service projects aimed at benefiting the underprivileged, including the collection and distribution of 500 backpacks filled with school supplies for children and the distribution of hundreds of masks.

Projects

Personal Website
- Created a website to better understand front end development in React.js using HTML/CSS and Javascript (https://daniel-website-9oar6yuzg-dauniel.vercel.app/)

Biological Simulation of Infection Disease Transmission (SIR Model)
- Python project using CoCalc software to simulate infectious disease spread using the SIR model. Implemented the SIR model using scipy.integrate.odeint and calculated equilibrium points and the Jacobian matrix for stability analysis. Project showcases proficiency in Python, differential equations, numerical methods, and data analysis for real-world problems in epidemiology.

DNA Transcription and Translation Program using Codon Mapping
- C++ program that transcribes a DNA strand into mRNA and maps each codon to its respective amino acid using a predefined map. The program also verifies the validity of the input strand and allows the user to select the direction of transcription. The program outputs the resulting mRNA sequence and corresponding amino acid sequence.

High-Capacity User/Movie Database
- C++ program that efficiently manages and retrieves data with hundreds of thousands of movies and users using advanced data structures and algorithms. It uses a self-balancing binary search tree to maintain a sorted collection of movies and users with their respective data (email, actors, genres, rating, year, etc.) and employs a hash table to map information from users to movies and vice versa. Implements lambda functions, enabling streamlined and efficient data manipulation and filtering to create a point recommendation system.

Skills

Languages
- *Proficient in C++ and Python*
- Basic in Javascript, HTML/CSS, and Java

Tools
- NumPy, Pandas, Matplotlib, CoCalc