Neel Tangella

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EDUCATION

B.S Quantitative Biology, Minor Computer Science, *University of Southern California* Aug 2020 – May 2024
GPA: 3.7
Awards and Honors: SOAR Award, Provost Undergraduate Research Fellowship, Bridge Undergraduate Research Fellowship, USC Merit Scholarship Recipient, Dornsife Dean's List

PROFESSIONAL EXPERIENCE

Computational Systems Biology Lab at USC, *Undergraduate Research Engineer* Aug 2021 – present
Los Angeles, CA

- Implemented and trained a time-course classification Siamese Neural Network on Tumor Progression Data (**Python, TensorFlow, Keras**)
- Implemented probabilistic migratory features as a function of intercellular signaling patterns in an Agent-Based model of the Tumor Microenvironment (**C++**, **SFML**). Implemented a flocking boid schema(**C++**) to understand how aspects of collective migration impact killing efficiency and tumor body infiltration.
- Used an ODE-Based, Mechanistic Model (**MATLAB**) to understand Tumor Progression in Breast Cancer. Performed K-Means Cluster Analysis with the Silhouette Method (**Python**) to understand how tumor-specific physiology associates with survival outcomes. Quantified relative hazard across different treatment regimens using Regression, Kaplan-Meier Survival Methods, and the Logrank Test (**Python**).

Valence Vibrations, *iOS Engineering Intern* Feb 2021 – Aug 2021
Los Angeles, CA

- Valence Vibration develops wearables and assistive technologies for the neurodivergent population.
- Redesigned the iOS Application end-to-end to meet the needs of the target use (**SwiftUI**).
- Developed a plan for backend integration using Google Firebase to create a data-driven user experience (**Java**).

HIA Technologies, *Summer Intern* Jun 2019 – Aug 2019
Pasadena, CA

- HIA creates VR-driven patient engagement solutions in the clinical setting.
- Developed scripts to maximize the efficiency of data pipelines (**Python**, **Selenium**) that feed into training sets for the Artificial Intelligence module.
- Assisted with market research and strategy development to enter a new market

SKILLS

C++ *(SFML, Makefile, GNU)* | **Python** *(NumPy, SciPy, Pandas, Matplotlib, Jupyter, Conda)* | **Java**

MATLAB *(ODE Modeling, Data Visualization)* | **JavaScript** *(ReactJS)* | **SQL** *(MySQL, Oracle DB Management Tools)* | **R** | **Git**

Docker | **Firebase** | **Linux** | **SwiftUI** | **TensorFlow** | **Keras**

PROJECTS

Lévy Distribution Package and Lévy Flight Simulator Aug 2022
I created a packet in C++ that uses rejection sampling and inverse transform sampling to produce variates along a Lévy distribution. I also used the Lévy distribution to simulate Lévy flight.

A* Car Park Puzzle Solver Feb 2022
Implemented a solver for the car park puzzle game in C++ using the A* algorithm utilizing heuristics.

Property Assessment Bayesian Learner Aug 2022
Implemented a Bayesian Learner in C++ to determine whether a house was overpriced or not given a set of input features and various labeled examples. Used training data to classify unlabeled (test) examples.