

Erik Hakopian

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Education

UNIVERSITY CALIFORNIA, RIVERSIDE

Neuroscience B.S. GPA 3.7

Relevant Coursework: Neuroscience, Organic Chemistry (Lab included), Computational Neuroscience Lab

Riverside, CA
2023

PASADENA CITY COLLEGE

Biology & Mathematics A.S. GPA 3.3

Relevant Coursework: Biology, Genetics, Differential Equations, Linear Algebra, Advanced Calculus, Organic Chemistry (Lab included)

Pasadena, CA
2021

Skills & Interests

Laboratory: DNA manipulation techniques, PCR, gel electrophoresis, DNA replication, NMR (C, H), IR, Extractions, Retro/Forward synthesis, titration/dilution, Crystallization, Purification, TLC

Technical: C, Python, Linux, Power Point, Excel, MATLAB

Language: Armenian, Persian, English

Interests: Photography, Music Production, Cybersecurity, Coding

Experience

Caltech

Autonomous System/Power Steering Engineer

- Studied and worked on neural network models used for autonomous driving
- Designed and implemented power steering
- Studied and researched mini processors for the car in order to implement autonomous driving capabilities
- Worked in interdisciplinary teams to design autonomous circuits for power redistribution of the battery

Pasadena, CA
Sept 2019 – Sept 2021

UC LEADS Summer Internship

Research assistant for Schizophrenic study

- Researched schizophrenia by analyzing the effects of MK-801 drug on functional connectivity of 6 ROIs in the brain, including the septo-hippocampal network, using functional Ultrasound imaging (fUSI).
- Calculated functional connectivity values of each ROI using the cerebral blood volume data acquired from fUSI.
- Developed a machine learning algorithm to detect normal mice vs ones injected with MK-801 drug.
- Used data reduction techniques such as PCA, and prediction models such as ARIMA

Riverside, CA
June 2022 – Aug 2022

Leadership & Activities

Armenian Student Association

Treasurer

- Managed the club's cash flow and scheduled events for fundraisers for the club
- Successfully doubled the funds available for the club
- Connected with ASA treasurers from universities all over California to create events and plans to increase community engagement and awareness.

Pasadena, CA
Feb 2018 – Mar 2020

Academic Projects

Pharmacokinetics of a sample drug

- Using linear, regression and quadratic mathematical models to calculate the effect of drugs on the human body
- Calculated absorption and elimination rate of specific drugs using differential equations.
- Predicted the most effective dose of a sample drug using biological parameters of a patient's body

Calculating the Stellar Motion of 7 sample stars (including HD-94028) using MATLAB

- Calculated redshift factor and speed of stars moving towards/away from the earth using diffraction grating matrix
- Calculated and found the Hydrogen alpha-wavelength of each individual star
- Plotted a histogram of speed of multiple stars using red shift and blueshift properties.