

BRANDON GUO

<https://bguo.us>

EDUCATION

Monta Vista High School

August 2016 - Present

Weighted GPA: 4.67; Unweighted GPA: 4.00/4; ACT: 36/36

SAT Mathematics Level II: 800, SAT Physics: 800, SAT Literature: 740

School Coursework (AP): Calc BC; Physics 1/2/C-M/C-EM; Statistics; Eng. Lang.; Comp Sci A; Chinese [5]
Eng. Lit., French, Macroeconomics, US Gov/Politics, Chemistry [taking exam 2020]

College Coursework (Concurrently): MATH4B: Differential Equations, MATH4C: Linear Algebra, ENG1A: English Composition, CS3A: OOP with Python, PHIL004: Philosophy, MATH4A: Multivariable Calculus

RESEARCH

Research Intern in Nadeau Lab at Stanford School of Medicine

May 2019 - Present

Proposed the first analysis pipeline that leverages graph theory along with techniques of weighted network analysis and effect size tests to identify disturbed gene-gene and gene-transcript interactions in asthma. Perform research pipeline R using Amazon Cloud Services to handle big data. Project 1 of 10 high-schoolers nationally to be invited to AMIA conference in DC.

Publication (B Guo, A Kaushik, KC Nadeau): A robust pipeline for gene interaction identification in asthma

Publication Status: Pending

Research Intern in San Jose State University

Worked with Professor Guangliang Chen on evaluating dimension reduction techniques in machine learning. Used lung genomics data to evaluate the runtime and effectiveness of state-of-the art dimensionality reduction techniques. Used Python for simulations.

Publication (B Guo, G Chen): Computational and Theoretical Analysis of Novel Dimensionality Reduction Algorithms in Data Mining

Publication Status: Publishing in JSM Proceedings 2019

Research Intern Zhang Lab at University of Pittsburgh School of Medicine

Developed a neural network platform used to use patient gene expression data to determine risk scores for pulmonary fibrosis diagnosis. Also performed computational analyses in R for the work in the paper.

Publication (X Li, SK, TC, JW, TT, JT, YD, B Guo, SF, JZ, JS, MR, SS, RL, CC, JA, DK, Y Zhang):

Toll Interacting Protein Protects Lung Epithelial Cells from Bleomycin-Induced Apoptosis

Publication Status: Publishing in FASEB (Impact Factor: 5.498)

ACTIVITIES

Goalkeeper for De Anza Force Premier Team and School Varsity Team

May 2016 - Present

President of Math and Science Club

May 2019 - Present

Director of Training for Model UN Club

August 2017 - Present

Percussionist for San Jose Youth Philharmonic Orchestra

May 2018 - Present

Director of Physics for Physics/Engineering Club

May 2019- Present

President of Silicon Valley Forensics

August 2018 - Present

Led my team in raising roughly \$1000 in academic resources and scholarships for aspiring debaters.

Founder of Young American Policy Advocates

July 2019 - Present

One of the founding members of YAPA, a ten-week program which educates students about local governments and legislation by matching them with elected officials who help them develop a bill or white paper.

Director of Tutors for CalTutors

August 2016 - Present

Each week, I work with my team to host lectures on AMC and USACO competitions free for local students.

Boys State Delegate

June 2019

Selected to represent my post district to attend, paid for by the government. Elected as the District Attorney and chosen as a finalist for the state-wide Oratorical Competition.