

Elijah S. Whang

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<file:///Users/Elijah/Desktop/Portfolio/home.html>

EDUCATION

BASIS San Antonio – Shavano Campus (BASIS), San Antonio, TX

Expected Graduation: June 2022

GPA: 4.84

ACT Composite Score: 35

SAT Subject Test Score: Math II: 800

21 AP Classes Including:

- | | | | |
|--------------------|--|----------------------|-------------------------------|
| ♦ Calculus AB & BC | ♦ Statistics | ♦ Computer Science A | ♦ Computer Science Principles |
| ♦ Physics 1 & 2 | ♦ Physics C: Mechanics/Electricity & Magnetism | | ♦ Environmental Science |
| ♦ Human Geography | ♦ Macro- & Microeconomics | | ♦ Psychology |

Coding Languages & Frameworks:

- ♦ Java ♦ React Native ♦ JavaScript ♦ HTML/CSS ♦ Python

Deep Learning (DL) & Science Programs & Libraries: ♦ YOLOv3 ♦ TensorFlow ♦ Numpy ♦ Matplotlib

COMPUTER SCIENCE PROJECTS

Tracking Red Blood Cells in Real Time with DL:

10th – Present

- Overall Goal: To develop an automated, real-time, *in situ* blood cell identification and counting system that calculates red blood cell size distribution width (RDW) to predict mortality and monitor patient disease progression.
- Trained DL model to identify and track red and white blood cells in images and videos using **YOLOv3**, **TensorFlow**, **Numpy**, and **Python**.
- Developed a program to calculate RDW using DL. Visualizes RDW data using **Matplotlib**.
- Presented at the Alamo Regional Sci. and Engin. Fair (ARSEF) and the International Sci. & Engin. Fair (ISEF)

Co-Crit (Full Stack):

11th – Present

- **React Native** mobile app that crowdsources reviews of business coronavirus safety measures using: ♦ Google Places API ♦ Google AdMob ♦ Firebase Cloud Storage, Authentication, Realtime Database, Cloud Messaging, Remote Config
- Published to Apple App Store and Google Play Store: <https://lnk.bio/yqpv>

Personal Website (In Progress)

11th – Present

- Developed using **HTML/CSS** to detail my projects and interests.

LEADERSHIP

Founder and President, PC's2Prosper, BASIS

11th – Present

- Founded a club to develop a website that allows businesses to donate computers to schools in need.
- Actively recruiting companies to donate used equipment to be refurbished and delivered to schools.

Vice President, Mu Alpha Theta (nationally recognized math club), BASIS

10th – Present

- Led meetings and planned events.

Starting Point Guard (9th – Present), **Captain** (10th – Present), Varsity Basketball, BASIS

9th – Present

Historian, National Honor Society (NHS), BASIS

11th – Present

OTHER EXTRACURRICULAR ACTIVITIES

Cyber Patriots, First Team, BASIS

11th – Present

- Competed to solve cybersecurity problems on a simulated computer system.

Math University Interscholastic League (UIL), BASIS

11th – Present

- Competed in statewide math competitions.

San Antonio Math Include (SaMI), Tutor, BASIS

9th – Present

- Tutored students in San Antonio in advanced logic and math shortcuts.

HONORS AND AWARDS

Finalist, ISEF: "Tracking Red Blood Cells in Real Time with Deep Learning."

10th

2nd Grand Prize, Senior Division, ARSEF

10th

2nd Grand Prize, Individual Project Winner, Schreiner University Scholarship

10th

St. Mary's University Scholarship

10th

Trinity University Scholarship

10th

National AP Scholar

10th

AP Scholar with Distinction

9th & 10th

Defensive Player of the Year, Varsity Basketball, BASIS

9th

NHS, BASIS

10th – Present

PUBLICATIONS

E. Whang. "Tracking Red Blood Cells in Real Time with Deep Learning." Society for Science & The Public, Regeneron International Science and Engineering Fair Abstract #TMED039.

10th

INTERESTS/HOBBIES

◆ Singing and Guitar

◆ YouTube Channel (www.youtube.com/channel/UCNdXR-f8QdIHs5G-DkAHvA)