SAGAR SHAH

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EDUCATION

Fullerton College, Cypress College, Santiago Canyon College, Santa Ana College **June 2020 - 2025**

117.5 units — 3.85 GPA — 6 Degrees

- Associates of Science: Computer Science, Math, Physics, Engineering
- Associates of Arts: General Education with an Emphasis on Math and Science
- Associates of Arts in General Education with an Emphasis in Art and Human Expression

Buena Vista Virtual High School | Valedictorian for Class of 450 | 3.91 GPA **August 2021 - 2025**

Notable Coursework at Community College:

- Computer Science: CSCI 123 (Intro to C++), CSCI 133 (Data Structures in C++), CSCI 223 (C For Math and Science)
- Math: Math 171 (Discrete Mathematics), Math 172 (Graph Theory), Math 250AC (Multivariable Calculus), Math 250BC (Differential Equations and Linear Algebra), Statistics
- Physics (Calculus Based): Phys 221 (General Physics 1), Phys 222 (General Physics 2), Phys 223 (General Physics 3)
- Engineering: ENGR 203 (Circuits), ENGR 225 (AutoCAD), ENGR 110 (Intro to Engineering)

Programming Languages: Python (Pytorch, Numpy, SciKit, MatPlotlib), C++, C, Julia, Java, LaTeX, HTML, CSS, JavaScript, Swift
Frameworks and Tools: React, Node.js, TensorFlow, Docker, Git, ROS
Engineering Programs: Fusion 360, OnShape, AutoCAD, Arduino, Raspberry Pi, Ansys

EXPERIENCE

United States Air Force Research Lab | Materials, Manufacturing, and Aerospace Directorates **Summer 2024 – Present**

Student Researcher, Wright Patterson AFB, OH

- Working on next-gen control operations in the Aerospace Systems Directorate using control theory algorithms written in Julia (Submission to IEEE this November)
- Programming a Boston Dynamics Spot Robot Dog in the Manufacturing Directorate (CAMS Lab)
  - Autonomously cut a ribbon using computer vision for the lab's inauguration ceremony (https://tinyurl.com/57z42b7p)
  - Developing program for multi-domain accessibility (specifically the OptiTrack System to further collaboration with QUGVs)
- Created a GUI compatible with ARES OS for a Soft Materials lab in the Materials Directorate (code is published and in use)

Student Researcher | Fuller Lab @ Stanford University School of Engineering **Spring 2023 - Fall 2024**

- Developed machine learning pipeline using computer vision for pupil detection utilizing Meta's SAM 2 AI Model
- Worked in an interdisciplinary team to develop an app that detects ophthalmological disease (deployed to Altron)

Student Researcher | Laksari Lab @ University of California, Riverside **Spring 2024 - Spring 2025**

- Developed machine learning detection model for traumatic brain injuries using advanced U-Nets in Python and C++
- Designed algorithm for prediction of ischemic stroke (CVAs) and made simulations in MatLab
- Worked in collaboration with University of Arizona, hospitals, and other research teams around the country

Applied Engineering Club | President @ Fullerton College **Fall 2023 - Spring 2024**

- NASA MINDS National Competition | Grand Champions
  - Developed RFID based real-time object tracking system and presented it to lead astronauts and engineers at NASA
  - Led the development of this software for this C++ and Python based project
- Led the software and mechanical design of an unmanned aerial vehicle (UAV) for the C-UAS UAV competition at Cal State LA
- Taught over 40 students weekly different engineering concepts such as utilizing CAD, programming Arduinos (beginner topics like flashing lights to advanced topics like PID controllers)

Guest Teachers Assistant | Dr. R. Venook's BIOE 123 Class @ Stanford University **Spring 2024**

- Assisted Dr. Ross Venook with students in BioEngineering Prototyping Lab class (BIOE 123) for 3 weeks
- Taught students how to utilize oscilloscopes, develop circuits, and design CAD models for professional engineering purposes
- Assisted students (juniors, seniors, and graduate students) in developing custom centrifuges as part of their final project

HONORS & AWARDS

- US Air Force Wright Scholar (Summer 2024 — 1 of 15 out of 447 applicants; Summer 2025 — 1 of 23 out of 563 applicants)
- NASA MINDS Grand Champions — 1 of 50 schools to be selected nationally — Project concept deployed to 2026 Artemis Mission
- College Reading and Learning Association (CRLA) 1 Certified — Fullerton College — International English tutor certificate
- 2025 Fullerton College Student of Distinction—1 of 5 out of all 2025 graduates to receive scholarship for academic achievement
- Speech and Debate — Toastmasters International — Silver Medalist (1 rank from Gold) — Spoke in front of 300+ people