Anthony B. Song

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EDUCATION

Cornell University, Ithaca, NY (Computer Science in the College of Arts and Sciences)   Aug. 2023–May 2027 (expected)

University of Connecticut (Early College Experience), Storrs, CT   Aug. 2020–May 2023
- Unweighted GPA: 3.97/4.0
- **Courses Taken:** CSE2050 Data Structures and Object-Oriented Design, CSE3666 Computer Architecture, CSE2500 Introduction to Discrete Systems, Math 2110Q Multivariable Calculus, Math 2210Q Applied Linear Algebra

Edwin O Smith High School, Storrs, CT   Aug. 2019-Jun. 2023
- Unweighted GPA: 3.97 out of 4.0 (top 1% of class 2023)

RESEARCH EXPERIENCE

Group Leader, Autonomous Car High School Research Project, University of Connecticut   Jun. 2021-Aug.2023
- Led a high school research team of 10 members and conducted 200+ hours of research on safe and robust autonomous vehicles and machine learning under the guidance of Professors Fei Miao and Caiwen Ding
- Constructed a mini prototype autonomous vehicle that uses a NVIDIA Jetson TX2 and operates on ROS Melodic
- Created object detection, lane detection, and navigation scripts that used LiDAR and camera data
- Helped compress a neural network for 3D object detection from LiDAR by pruning of redundant connections
- Presented a research poster and demo of our prototype car on behalf of the group at the design contest in the ACM/IEEE International Symposium on Low Power Electronics and Design (ISLPED) in Boston, August 2022

Research Fellow, Microbiome Research, The Jackson Laboratory for Genomic Medicine   Nov. 2021–Apr. 2023
- Conducted an independent study of 180+ hours under the guidance of Professor George M. Weinstock
- Constructed machine learning pipelines and implemented clustering algorithms using the languages Python and R to analyze and understand the influence of the gut microbiome (community of bacteria) on addictive disorders
- Report analyzed results and project progress to fellow researchers and discuss the follow-up research plans
- Published an article in International Journal of High School Research (IJHSR) (accepted in April 2023)

Researcher, Beamline for Schools Competition (BL4S), University of Connecticut   Aug. 2019–Apr. 2023
- Designed experiment proposals relating to Bremsstrahlung radiation and Parametric X-Ray radiation for the European Organization for Nuclear Research (CERN) Beamline for Schools competition.
- Wrote python scripts that performed numerical simulations and calculated values for our experiment proposals

EXTRACURRICULARS

Founder, Coding Club at E.O. Smith Highschool   Aug. 2020–June 2023
- Organized a club field trip to the Connecticut Transportation Institute to visit their Driving Simulator Lab
- Held workshops for middle schoolers on how to build websites using HTML and CSS and Connect4/Chess in Python
- Reformed the classroom attendance system (using Java and Python) to improve classroom management efficiency

Web Master, Cultural Awareness Brigade at E.O. Smith Highschool   Aug. 2021–June 2023
- Designed and created the club website using HTML, CSS, and JavaScript to organize and advocate for club events
- Hosted scavenger hunt events for Native American Heritage Month and Asian American Pacific Islander Month

AWARDS & ACHIEVEMENTS
- **Jackson Laboratory Academic Year Fellowship 2021-2022**
- **Beamline for Schools Shortlisted 2021**, top 24 out of 289 international teams and top 2 USA
- **Quahog Ocean Bowl 2nd place in CT and RI 2022**
- **President's Volunteer Service Award (Bronze)**

SKILLS
- Programming Experience: Python, Java, R, HTML, CSS, ROS, OpenCV, YOLO, TensorFlow, Keras, PyTorch
- Operating Systems: Windows, Linux (Ubuntu and Arch-Linux)

RESEARCH INTERESTS
- Autonomous Vehicles, Computer Vision, Machine Learning, FPGA, ASIC, Optimization, Internet of Things (IoT)

HOBBIES
- Hiking, Kayaking, Table Tennis, Cooking, Stenciling, Painting, Street Art, Videogames, Board and Card Games

WEBSITE and Profile
- **Personal Website**
- LinkedIn