



Davidson Institute  
**Fellows Scholarship**

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**FIVE BAY AREA TEENS RECEIVE \$170,000 IN SCHOLARSHIPS FOR UNMATCHED  
ACHIEVEMENTS IN SCIENTIFIC RESEARCH**

**Apoorva Panidapu, Bala Vinaithirthan and Franklin Wang each to be awarded \$50,000 as  
2021 Davidson Fellow Laureate Scholarship Winners, and  
Adarsh Ambati and Sean Li each to be awarded \$10,000 as  
2021 Davidson Fellow Scholarship Winners**

San Francisco – The Davidson Fellows Scholarship Program has announced the 2021 scholarship winners. Among the honorees are Apoorva Panidapu, 16, of San Jose; Bala Vinaithirthan, 18, of Danville; Franklin Wang, 17, of Palo Alto; Adarsh Ambati, 16, of San Jose; and Sean Li, 17, of Danville. Only 20 students across the country to be recognized as scholarship winners each year.

“I am honored to be recognized as a Davidson Fellow amongst many other amazing young scientists,” said Vinaithirthan. “This opportunity is meaningful because it allows me to inspire future young scientists and is especially rewarding because I have long admired the work done by the Davidson Institute in promoting high achievement in the arts and sciences.”

Panidapu’s project, *Short-Interval Sector Problems for CM Elliptic Curves*, studies prime number distribution in short intervals. Using an interdisciplinary approach, Panidapu’s work furthers understanding of elliptical curves with applications in cryptography.

Vinaithirthan’s project, *Prediction of Phenotypic Cancer Drug Response with an Image-Based Dual Convolutional Neural Network*, developed a model that learns from known interactions between drugs and cancer cell lines to better predict the estimated effectiveness of new combinations of drugs to predict patient responses to various cancer drugs.

Wang’s project, *The Fast and Inconspicuous: New Near-Earth Asteroids Discovered in Zwicky Transient Facility Data Using Neural Networks and Artificial Data Generation are Both Fast and Faint*, created a machine learning model that can find “streaks” left behind by fast-moving, small asteroids in telescope images, discovering six new near-Earth asteroids using his approach.

Ambati’s project, *A Contactless Vital Signs Monitor using PhotoPlethysmographic (PPG) Imaging Infrared Sensing Techniques & Computer Vision*, developed a contactless, low-cost, prototype that detects the five vital signs: skin temperature, heart rate, respiratory rate, blood pressure, and blood oxygen levels(Spo2). The contactless feature helps reduce the exposure of healthcare providers (like the many that occurred during the COVID-19 outbreak), and the low-cost feature strengthens home healthcare systems, allowing for self-quarantining or isolation without overwhelming hospitals.

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Li's project, *On Group-Theoretic Extensions of Penney's Game*, shows new connections between "Penney's game" and other algebraic structures. His findings allow for the development of better pattern-finding algorithms, which will help locate cytogenetic tags and compress data efficiently; and paves a new way to understand which patterns are unavoidable, like in data collisions or scheduling conflicts.

"The 2021 Davidson Fellows Scholarship recipients have risen the challenges of a global pandemic to complete significant projects within their fields of study," said Bob Davidson, founder of the Davidson Institute. "To be awarded this recognition, these students have shown immense skill and work ethic, and they should be commended as they continue their educational and research journeys while continuing to work to solve some of the world's most vexing problems."

The 2021 Davidson Fellows will be honored during a virtual ceremony in September 2021.

The Davidson Fellows Scholarship program offers \$50,000, \$25,000 and \$10,000 college scholarships to students 18 or younger, who have completed significant projects that have the potential to benefit society in the fields of science, technology, engineering, mathematics, literature and music. The Davidson Fellows Scholarship has provided more than \$8.6 million in scholarship funds to 386 students since its inception in 2001, and has been named one of the most prestigious undergraduate scholarships by [U.S. News & World Report](#). It is a program of the Davidson Institute, a national nonprofit organization headquartered in Reno, Nev. that supports profoundly gifted youth.

#### **About the Davidson Institute**

Founded by Bob Davidson in 1999, the Davidson Institute recognizes, nurtures and supports profoundly intelligent young people, and provides opportunities for them to develop their talents to make a positive difference. The Institute offers support through a number of programs and services, including the Davidson Fellows Scholarship and the [Davidson Academy of Nevada](#). For more information about the 2021 Davidson Fellows, please visit: [DavidsonGifted.org/gifted-programs/fellows-scholarship](http://DavidsonGifted.org/gifted-programs/fellows-scholarship)

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*High-resolution photos are available at [www.davidsongifted.org/gifted-programs/fellows-scholarship](http://www.davidsongifted.org/gifted-programs/fellows-scholarship)*