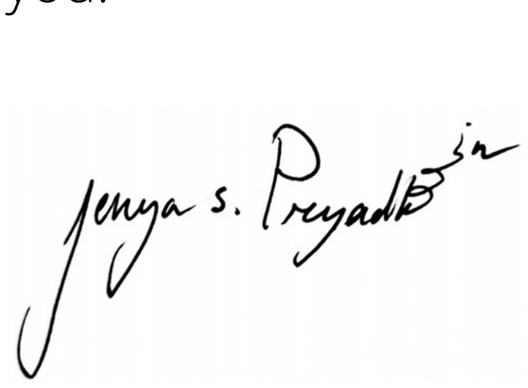
STAR

sponsorship opportunities

Thank you!

I'd like to personally thank you for your consideration in sponsoring Space Technologies and Rocketry at Cal (STAR). This group has big hopes for the future and a team full of students passionate and driven enough to make it happen. Your sponsorship will propel this team upwards and expand the aerospace community at Cal for current and future rocket scientists. Over the past 5 years, STAR has worked hard to create a fleet of high power rockets and develop a firm foundation of knowledge to help us progress onto more ambitious projects. Since joining my freshman year, STAR not only developed my technical skills but also introduced me to a new family that has challenged and inspired me. I hope that after reading through this packet, you'll see what makes STAR so special. Thank you.



Jenya Pryadkin
STAR President

Contacts

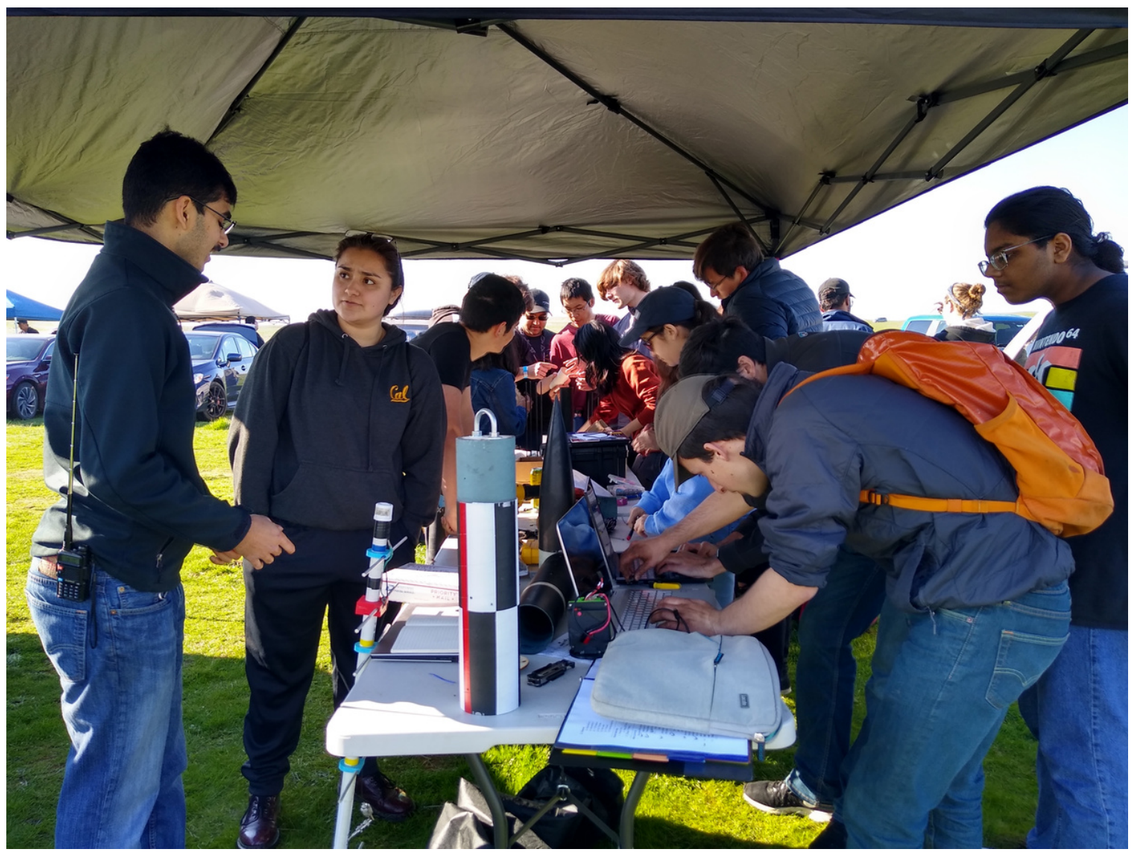
Jenya Pryadkin
President
jenya@berkeley.edu

Priyan Sathianathan
Vice-president
priyans@berkeley.edu

Sam Phillips
Business-Lead
sam_phillips@berkeley.edu

Find more at:
stars.berkeley.edu

Our Pillars:



Education

As Berkeley has no aerospace major, we have to educate ourselves independently on many topics. We run a series of educational events and training programs internally. We also have a strong focus on documentation to avoid having to reinvent the wheel every 4 years as our members graduate. You can check out some of our documentation on our GitBook page!
https://rocketry.gitbook.io/docs

Competition

We have successfully competed at NASA Student Launch, and are now preparing for IREC 2021 (Intercollegiate Rocket Engineering Competition). We find competitions give us a solid structure for our academic year - we produce increasingly complex rockets and payloads every year in order to boost our performance at competitions, and to develop the engineering capabilities of our team.

Outreach

One of our core missions at STAR is to educate and inspire a love for STEM within our community. Historically, we have hosted and attended events where we meet and interact with local children - demonstrating the science and technology behind rockets. Adapting to COVID-19 restrictions, we have developed new virtual lesson plans with the same goal in mind. We have reached over 500 students so far this year alone, and over 5,000 students since we were founded 5 years ago.

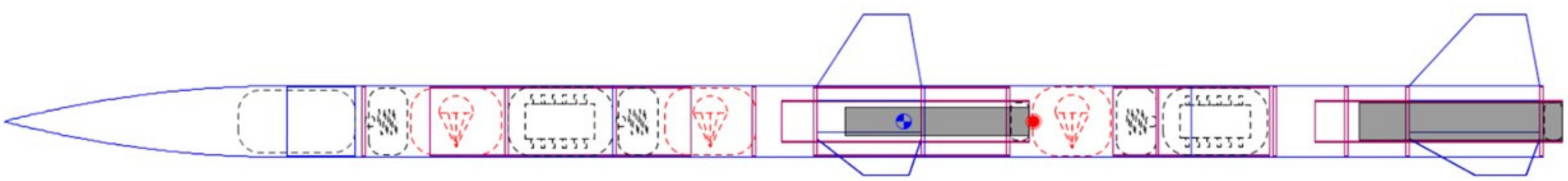
Our Projects:

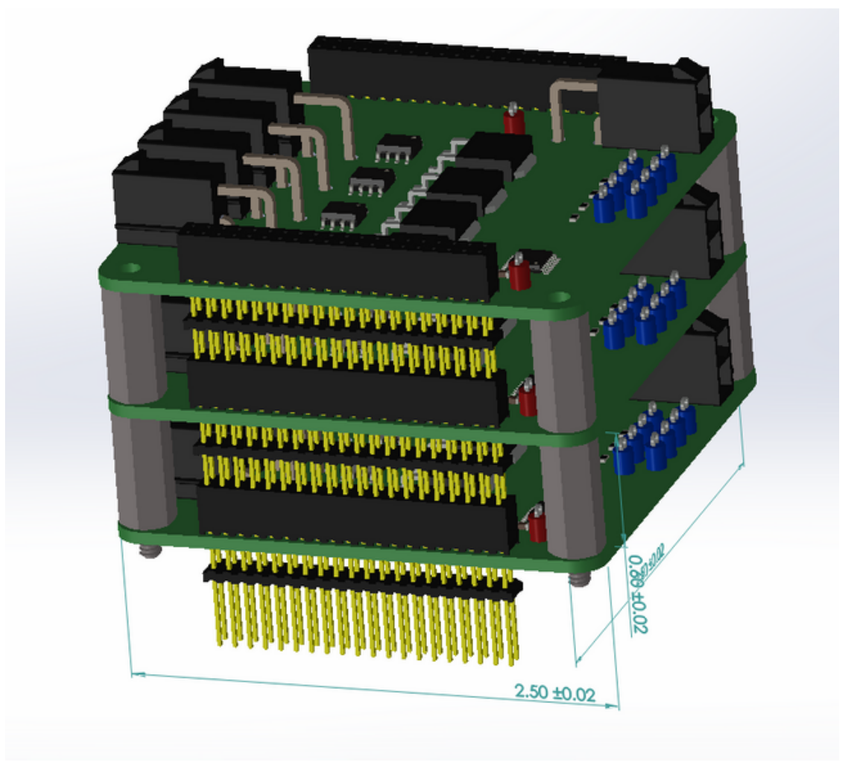
Bear Force One

Bear Force One (BFO, seen left) is our newest competition vehicle. Measuring in at over 10 feet tall, BFO is our largest rocket to date. It features a 6 inch diameter fibreglass airframe, and a cubesat form payload which will take our custom built muon detector and microbial fuel cell payloads to 10,000 feet.

Stage separation

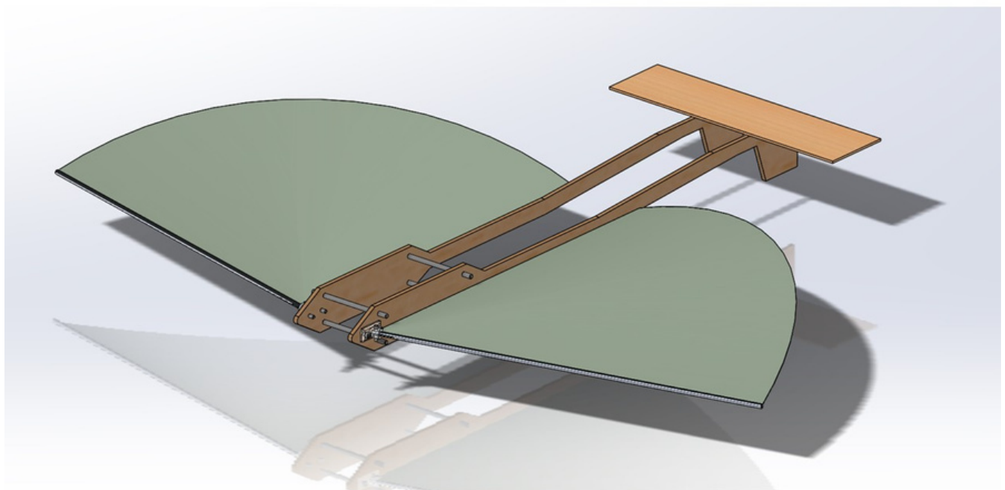
Our recovery and airframe team are busy at work this year creating our first multistage rocket (CAD below). Once we have our in-house stage separation equipment tried and tested, we will be able to fly higher than ever before as we integrate this technology into our future vehicles.





Common Avionics Stack

Our avionics team's Common Avionics Stack (CAS, seen left) is a modular avionics system which is being designed and built entirely in-house. Employing a modular system, we will be able to leverage year-on-year improvements with reduced risk, allowing us to develop more advanced functionality to our avionics systems.



DAVE

The Deployable Aerial Vehicle Experiment (DAVE, CAD left), is a glider which deploys from our rocket mid-flight. The first prototypes are currently being designed and built, and we are expecting to see DAVE's maiden flight before the end of the academic year.

Liquid Engine 1

Liquid Engine 1 is a simplified liquid engine designed to hot-fire on the ground only. We are developing this engine as an educational tool to help our team become familiar with liquid rocket engine design and safety before moving onto a flight-ready engine. Our hot-fire is currently scheduled for May of 2021.

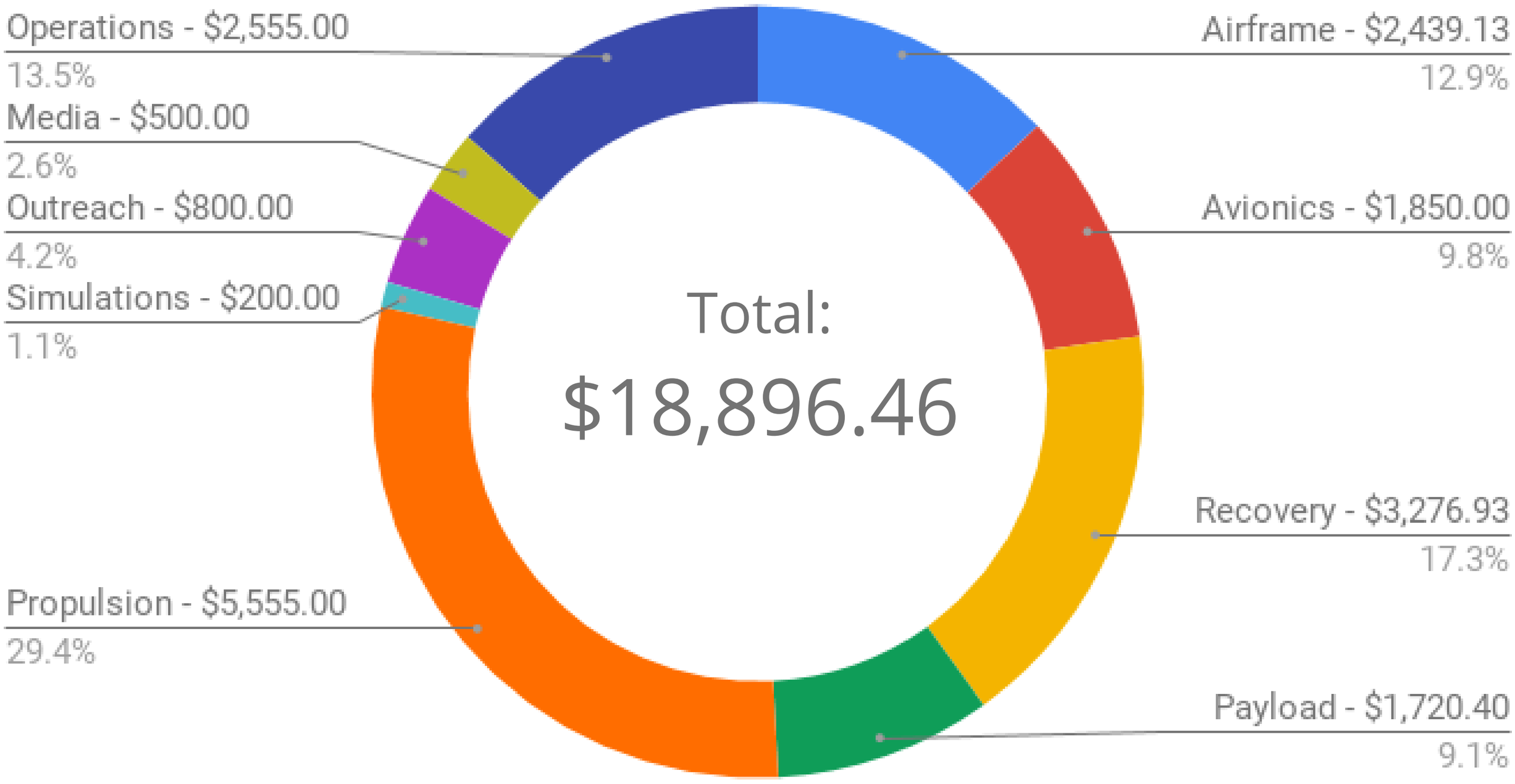
Liquid Engine 2

Our second liquid engine is current in the infancy of its design stage. Once we have completed our hot fire of our first engine, we will use our knowledge and experience from that program to design and build our first flyable liquid engine.

Experimental Solid Motors

Alongside our two liquid engines, our propulsion team is developing custom solid rocket motors in house. Our first motors will use APCP (Ammonium Perchlorate Composite Propellant). Custom solid motors not only present a new exciting avenue for education, but will also allow us to fly higher and faster than off-the-shelf motors.

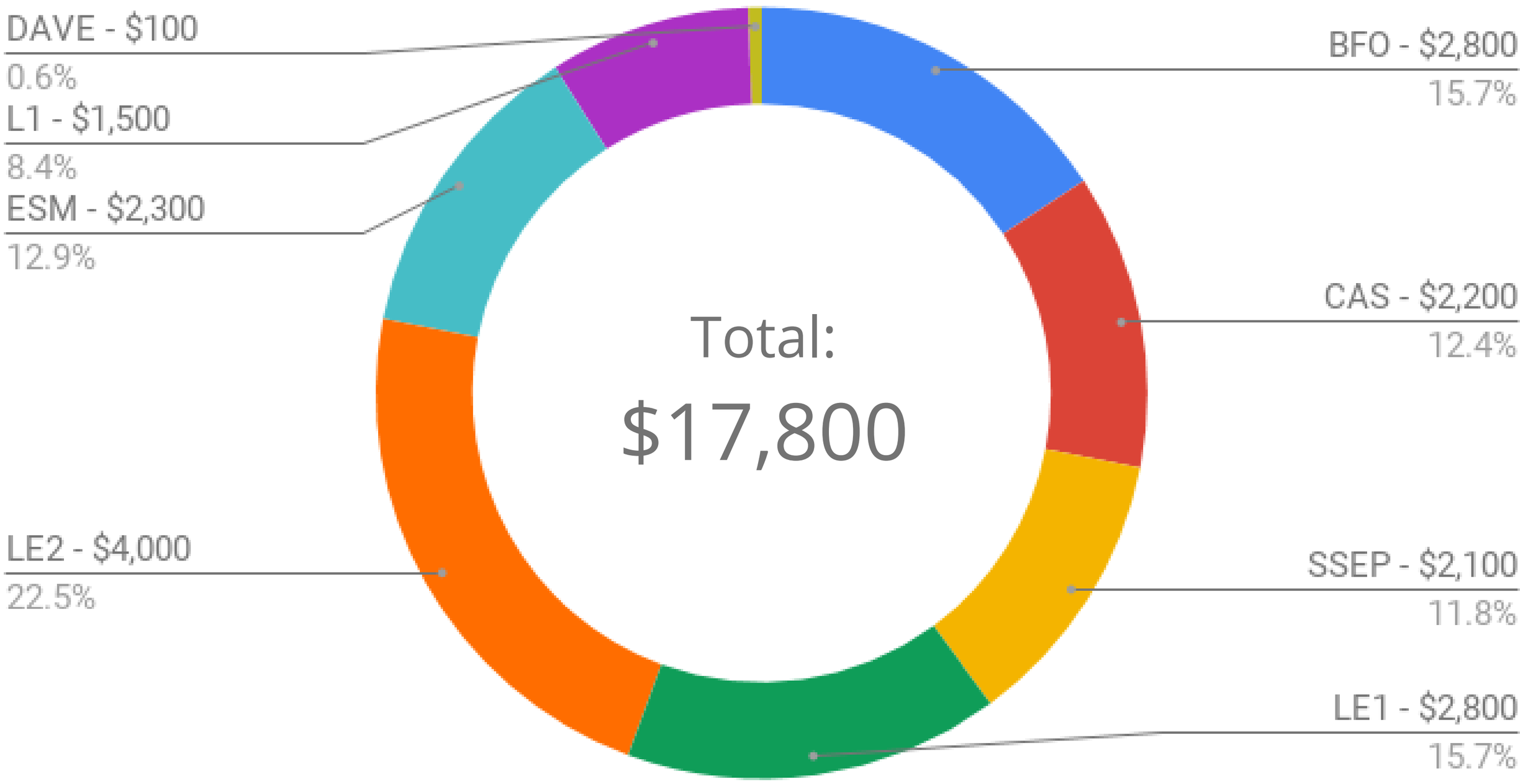
Budget 2019 - 2020



Despite the challenges posed by Coronavirus, the 2019 - 2020 academic year was an extremely successful year for STAR. Not only did we design and build a new launch vehicle, 'AirBears', from scratch, but we also launched it not once, but twice. AirBears represents a large portion of the airframe and propulsion budget - the two off-the-shelf L class motors we used cost over $700 by themselves.

None of the work we do would be possible without the generosity of our sponsors - we at STAR would like to thank both our friends and family who keep us going through crowdfunding each year, and our corporate sponsors.

Projected Budget
2020 - 2021



Building on last year's success, we are taking on a series of exciting new projects this year. With your help, STAR is going to fly higher, faster, and carry more advanced payloads than ever before.

At STAR we value your sponsorship, and we each love the projects we get to work on. All of our sponsorship plans are tailored around funding specific projects - so you know exactly where your money goes, and so do our members. When DAVE deploys with your name on the wing, or when our liquid engine hot fires with your logo across the fuel tank, we remember and appreciate the support that you, our sponsors, give us.

Our Sponsorship Tiers:

	Amount	What you sponsor
Blue	$1,000	**Transport**: With the blue plan, you'll cover all of our transportation costs for the academic year!
Silver	$5,000	**BFO & CAS**: The silver plan sees your money fund our new flagship competition rocket and our Common Avionics Stack – and your logo on the side of both!
Gold	$10,000	**Propulsion**: Going for gold would cover both liquid engines and our custom solids program. Your name and logo would look great across our fuel tanks!

Digital presence: We'll put your name and logo on our website, merchandise, and other marketing materials!

Resume Book: We will send you our STAR resume book, which contains the resumes and contact information of every member of our team - we currently have 91 active members.

Meet the team: Come and join us at any of our team meetings and get to know our team members - you can present and tell us about yourselves, or we can do the talking and show you our progress!

Logo placement: We will put your logo not only on the specific projects you sponsor, but on every project we launch, fly, or (intentionally) set on fire!

Custom event: As a gold sponsor, we want to offer you the chance to run an event with us on Berkeley's campus* - reaching out beyond our 90 members to the hundreds of Berkeley engineers STAR has access to as one of the most prominent engineering teams on campus.

*Depending on timing and COVID restrictions the event may be held on Berkeley's 'digital campus'.

	Blue	Silver	Gold
Digital Presence	✓	✓	✓
Resume Book	✓	✓	✓
Meet the team	✗	✓	✓
Logo placement	✗	✓	✓
Custom event	✗	✗	✓

Words from our members...

“For me personally, STAR has taught me to be confident. I’m surrounded constantly by people who are not afraid to ask questions or to be wrong about things during the process of learning and improvement. This is something that I’ve been afraid about a lot in the past, and so it’s been really special to learn to be more confident in myself.”

-- Vibha Deshiikan B.S. Chemical Engineering 2021

“If you combine a group of curious and audacious engineering students with a burning passion for all things space and rockets, you’ll end up with STAR. As a native Texan, STAR has become my family at Cal. From the late nights fashioning fiberglass components in dimly lit rooms, to the incessant amount of technical problems we have had to overcome, STAR has above all taught me to be dynamic and adaptable, filling in the gaps whenever I am able to.”

-- Allen Ruan, B.S. Mechanical Engineering, 2020

“STAR has given me the opportunity to work as a Systems engineer alongside LE2 - it’s given me the chance to understand how to organize and run projects on a long time scale. It’s given me insight into how to plan for the long haul for a large multi-semester project - looking forward beyond weeks and days”

-- Pranit Mohnot B.S Mechanical Engineering 2023

THANK YOU!