



2018 - 2019 Sponsorship Information



UAS@UCLA: Who Are We?

Unmanned Aerial Systems at UCLA (UAS@UCLA) is a team of diverse, highly motivated students from the University of California, at Los Angeles (UCLA) working together to design, manufacture, and test an autonomous drone for competition in the annual AUVSI Seafarer Competition. UAS@UCLA designed a state of the art quadcopter drone with reliable ground communication, excellent image processing, and unmanned flight capabilities. Our team is divided into subteams that include: Airframe, Controls, Vision, Ground System, and Testing.

Airframe

- Designs, fabricates, and tests the physical structure that will hold onboard electronics and other secondary subsystems
- Uses Computer-Aided Design (CAD) to design, Computational Fluid Dynamics (CFD) to simulate aerodynamic properties, and Finite Element Analysis (FEA) for structural integrity
- Develops a bill of materials (BOM) for each subsystem

Vision/Controls

- Develops a custom autonomous target recognition software pipeline that and front-end interface for live object-of-interest identification from the air
- Designs the commands and framework and routing algorithms for accomplishing the inputted mission objectives
- System consists of PX4 autopilot flight controller and a Raspberry Pi offboard computer running custom control code

Our Subteams

Ground

- Develops a versatile user experience for monitoring and triggering actions on the drone, as well as interfacing with the competition objectives
- Plans a detailed mission and processes drone imagery
- Has a central ground computer that communicates with the drone over a wireless network
- Central computer acts as a server for the ground station web app and other ground subsystems, such as a control box and antenna tracker

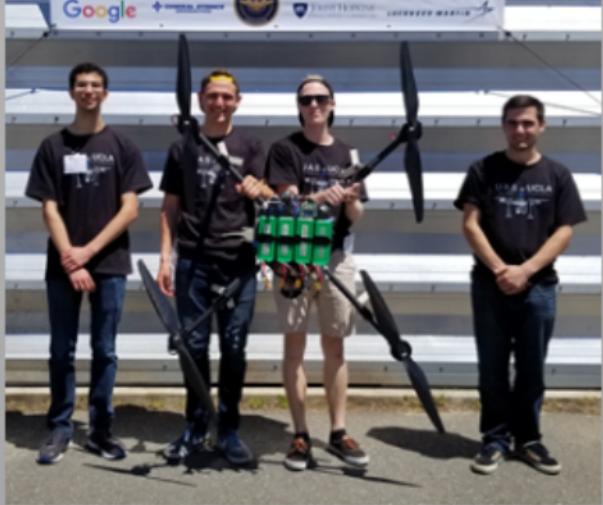
Testing

- Builds custom testing pipelines to evaluate the products of all of the other subsystems and notifies the team of any errors that arise from recent changes to the platform
- Responsible for monitoring different subsystem releases to ensure that only production-ready code and hardware are able to run during flight tests, minimizing failure risks
- Tests the autopilot controls on small drones



Operation "Flappy"

- 2016-2017
- Single Propeller Fixed Wing
- Manual take-off and landing
- Autonomous flight
- 14th place out of 54



Operation "Spinny"

- 2017-2018
- Quadcopter
- Autonomous take-off, flight, landing, and bottle drop
- 24th place out of 63

This Year's Competition

Who:

~ 60 teams from around the world

What:

18th Annual AUVSI SUAS Competition

When:

June 12-15
2019

Where:

Patuxent River Naval Air Station, Maryland

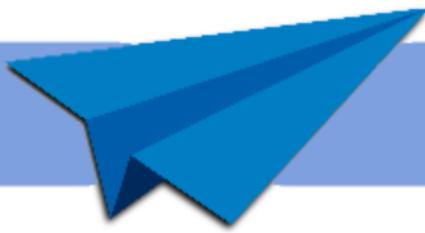
The Mission:

A package delivery company has tasked an Unmanned Aerial System (UAS) to deliver a package to a customer. The UAS must avoid obstacles like buildings, identify potential drop locations, drop the package to a safe location, and then move the package to the customer's location.

Expenses Forecast

ITEM:	COST:
Airframe:	
• Materials	• \$1,750
Ground:	
• Antenna Tracker	• \$80
• Control Box	• \$85
Recruitment:	
• Flyers and Stickers	• \$200
• Recruitment Events	• \$500
General:	
• Lab tools and supplies	• \$100
• Sponsorship packets	• \$50
• Bank Account	• \$20
Competition:	
• Competition Entry Fee	• \$1,000
• Presentation Materials and T-Shirts	• \$300
• Travel and Lodging	• \$6,000
	Total: \$10,085

2018-2019



Why Sponsor?

Without your help, UAS@UCLA will not be able to receive the necessary resources needed to accomplish our mission. Whether it is financial support, materials, or services, any amount helps. By sponsoring UAS@UCLA, you will be facilitating student learning and help make visions turn into reality. Furthermore, you will have an increased recruiting presence with access to all of our members, increased public relations, and tax deductible contributions. We need your support.

Diamond: \$8,000 and up

- | | |
|--|--------------------------------------|
| • 36 in ² featured logo on ground station | • Priority meeting with team members |
| • 12 in ² featured logo on aircraft | • Resume book |
| • Company name on t-shirt and website | |

Platinum: \$3,000 - \$7,999

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|--|--------------------------------------|
| • 12 in ² featured logo on aircraft | • Priority meeting with team members |
| • Company name on t-shirt and website | • Resume book |

Gold: \$1,000 - \$2,999

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| • 6 in ² Featured logo on aircraft | • Resume book |
| • Company name on t-shirt and website | |

Silver: \$500 - \$999

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| • Company name on t-shirt and website | • Resume book |
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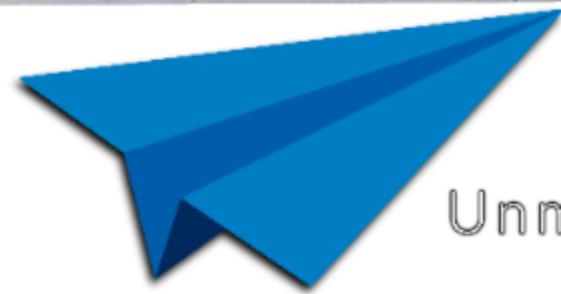
Bronze: \$100 - \$499

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|---|---------------|
| • Personal thank-you letter from UAS@UCLA | • Resume book |
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Nickel: \$1-\$99

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|---|--|
| • Personal thank-you letter from UAS@UCLA | |
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Thank You



Contact Us

Unmanned Aerial Systems at UCLA

For more information, visit our website at uasatucla.org,
or email us at unmannedsystems.ucla@gmail.com.

Comran Morshed
Operations and Infrastructure Team Lead
comranmorsh@ucla.edu

Tom Kantner
Design and Manufacture Team Lead
tkantner@ucla.edu

Eric Wong
Sponsorship/Outreach Manager
ewong2899@ucla.edu