

# Isabella Palm

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## EDUCATION

### University of Illinois at Urbana-Champaign (UIUC)

December 2024

*Major: Bachelor of Science, Aerospace Engineering*

**GPA: 3.99/4.00**

*Minor: Computer Science*

## TECHNICAL EXPERIENCE AND PROJECTS

### Illinois Space Society

Urbana-Champaign, IL

*Spaceshot Structures Fabrication Team Member*

*September 2022 – Present*

- Conducted carbon fiber layup on fin cans, belt sanded fins, and integrated M2500 motor in preparation for launch
- Followed launch operations to integrate avionics bay into nosecone and ensure requirements satisfaction day of launch
- Ran Open Rocket simulations to select N-Class Motor and designed NX models for optimal nosecone geometry

### NASA Proposal Writing and Evaluation Experience

Phoenix, AZ

*Project Manager*

*Jun 2022 – Aug 2022*

- Lead meetings 3 times a week, directed sub team leads, integrated completed work, and ensured task comprehension
- Conducted trade studies to optimize materials selection and researched state of the art to develop performance metrics
- Drafted technology development plan to verify proof of concept and completed NTR for advancement of proposed technology
- Created 7-page proposal and evaluated 4 competing teams' proposals in response to NASA solicitation for \$10,000 grant

### Cell and Tissue Engineering Lab

Urbana-Champaign, IL

*Technical Elective*

*Jan 2022 – May 2022*

- Followed and completed strict protocols and procedures during weekly experiments in BSL-2 Lab
- Recorded observations in Electronic Lab Notebooks and composed biweekly lab reports to analyze and validate results
- Quantified and visualized cellular response data with ImageJ, Microsoft Excel, and MATLAB software

### NASA L'SPACE Mission Concept Academy

Phoenix, AZ

*Science Team Lead*

*Aug 2021 - Dec 2021*

- Selected and integrated mass spectrometers and GPR into rover design and satisfied requirements and science objectives
- Performed FMEA and developed risk matrices to identify and mitigate potential rover failures in the Mars environment
- Developed a verification and validation plan to ensure efficiency, redundancy, and accuracy of instrumentation
- Completed 62-page PDR of Mars rover, organized 5-year mission timeline, and optimized \$300 million budget

### Engineering Open House

Urbana-Champaign, IL

*Biomimicry Team Member*

*Dec 2020 - May 2021*

- Prototyped, manufactured, and assembled multiple iterations of a 3D printed, biometric robotic hand
- Modeled individual finger flexion and integrated parts into palm structure utilizing SolidWorks CAD
- Earned 2<sup>nd</sup> place Spirit of Innovation Award for unique design and implementation as an underclassmen team

## LEADERSHIP AND ACTIVITIES

### MTL Tennis Management

Geneva, IL

*Senior Tennis Instructor*

*Jan 2019 – Aug 2022*

- Scheduled group, individual, and makeup lessons across 3 townships and coordinated availability with other coaches
- Mediated conflicts between athletes ranging from ages 4 to 50 and facilitated teamwork, sportsmanship, and cooperation
- Brainstormed and implemented weekly drills and explained techniques and strategies specific to player level

### University of Illinois Housing

Urbana-Champaign, IL

*Head Residential Honors Ambassador*

*May 2021 – May 2022*

- Organized and led Honors Living-Learning Community orientation events for 250 incoming freshmen
- Advised underclassmen academically and socially, and fostered a welcoming environment for the community

### Club Tennis

Urbana-Champaign, IL

*Club Athlete*

*September 2020 - Present*

- Practiced 3 times a week in a competitive environment and traveled to compete against other schools

## SKILLS

- **Computer Skills:** Siemens NX, C++, Java, Python, JavaFX, MATLAB, Open Rocket, ANSYS, JMARS, Microsoft Suite
- **Technical Skills:** Rocket Manufacturing, Launch Operations, Rocket Integration, Simulation and Analysis, Design Verification, Proposal Writing and Evaluation, Trade Studies, Fin Beveling, Risk Mitigation, Component Assembly
- **Soft Skills:** Time Management, Interpersonal Communication, Teamwork, Creative Thinking, Adaptive Learning