Andrew Campos

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EDUCATION

Columbia University | New York, NY — Aug 2024 - May 2028
B.S. in Mechanical Engineering; Minor in Aerospace Engineering — GPA 3.84/4.0, Dean's List

- ***Relevant Coursework:*** Multivariable Calculus, Data Structures, Intro to CS for Engineers, Physics E&M, Physics Mechanics&Thermo
- ***Activities:*** Columbia Club Rugby Team Member, Columbia Meditation Club Member

Los Altos High School | Los Altos, CA — Aug 2024 - Jun 2024
High School Diploma — GPA 3.98/4.00

EXPERIENCE

Power Stroller Research Project | **Creative Machines Laboratory** | New York, NY — Feb 2025 – Present
Project Co-Lead

- Co-Leading the design and prototyping of a detachable Segway-like powered attachment for non-electric wheelchairs. Managing project logistics, mechanical design, CAD modeling, component assembly, and budgeting.

Formula SAE | New York, NY — Oct 2024 – Present
Frame/Body/Aero Team Member

- Design and optimize aerodynamic components by modifying CAD designs for race car's front and rear wings to increase downforce and traction, improving the car's aerodynamic performance and controls.
- Use computational fluid dynamics (CFD) simulations in Altair to test CAD design performance under wind tunnel conditions. I analyze downforce, drag, and flow separation to optimize wing designs for maximum aerodynamic efficiency and traction.

Columbia Space Initiative, Rockets Mission | New York, NY — Oct 2024 – Present
Airframe Subteam, Member

- Design and model rocket fins using CAD. Manufacture rocket airframe and fins with carbon fiber layups.
- Design, simulate, and test payloads for high-powered hybrid rockets, competing in the Spaceport America Cup and FAR-OUT.

Nuclear Reactor Modeling and Simulation| Los Altos, CA — Dec 2022 – Nov 2023
Research project

- Used OpenMC and python framework, Paramak, to conduct Monte Carlo simulations on 3D tokamak reactor models, optimizing tritium breeding ratios (TBR) by analyzing material performance, neutron multiplication, blanket thickness, and lithium enrichment.
- Identified optimal reactor configurations by testing various component sizes, materials, and lithium enrichment. Found best configurations through measurement tallies on tritium production, neutron multiplication, and heat production.
- Developed a comprehensive research paper on findings and currently working towards publishing work with APS.

Pyka inc. |Oakland, CA — Jul 2023
Engineering Consultant intern

- Contributed to the development of Pyka's commercially certified electric and autonomous agricultural and cargo airplanes, collaborating with and contributing to Pyka's Manufacturing, Integration, Electrical, and Design teams.
- Design: Utilized SolidWorks to build CAD models of aircraft components and related building tools or equipment pieces.
- Manufacturing & Integration: Assembled, repaired, and installed aircraft components and systems, including spray and motor systems.
- Electrical: Wired high-voltage systems, repaired landing lights, and assisted in developing Pyka's next generation of lithium batteries.

LEADERSHIP EXPERIENCE:

Los Altos High School | Los Altos, CA — Aug 2021 - Jun 2023
Class President

- Served as a liaison between school leadership, administration, and the 500 person Class of 2024, successfully raising over $40,000 for scholarships and events through innovative fundraising initiatives. Led over 30 class council meetings, fostering collaboration and driving impactful student engagement. Received "Certificate of Special Congressional Recognition for work.

Los Altos High School | Los Altos, CA — Aug 2020 - Jun 2023
Associative Student Body Member

- Facilitated policy discussions with administration on dress codes, clubs, and scheduling, shaping impactful campus decisions.
- Organized community events like food drives, diversity assemblies, and spirit weeks, promoting school spirit and inclusivity.

SKILLS & INTERESTS

Technical Skills: Intermediate Java, Intermediate Python, CAD (SolidWorks), Monte Carlo Simulation (OpenMC), Computational Fluid Dynamics (Altair), Laser Cutting, Microsoft (Word, Excel, PowerPoint), Adobe (Photoshop, InDesign),
Language: English, Intermediate Spanish
Licensed Pilot: Airplane Single Engine Land & Instrument Rating 220+ Hours, 100 hours Pilot in Command, 430+ Takeoffs/Landings in High Performance Single Engine Aircraft: Cirrus SR22's
Interests: Aviation and Aerospace, Creative Design, Artificial Intelligence & ML, Electric Propulsion Systems, Vertical Lift Technologies