

# Calder Russell

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## EDUCATION

<b>Massachusetts Institute of Technology</b> <i>B.S. intended in Aeronautics &amp; Astronautics and Mathematics</i>	Cambridge, MA 2026 – 2030
<b>Harvard University</b> <i>Non-Degree Coursework: Dual enroll during High school</i>	Cambridge, MA 2025 – 2026
<b>Cambridge Rindge and Latin</b> <i>High school</i>	Cambridge, MA 2022 – 2026
<ul style="list-style-type: none"><li>Courses: MATH 21B (Linear Algebra), STAT 110 (Probability), STAT 171 (Stochastic Processes)</li></ul>	
<ul style="list-style-type: none"><li>GPA: 95.9 (unweighted)</li><li>Relevant Coursework: Multivariable Calculus, AP BC Calculus, AP Physics C (Mechanics &amp; E&amp;M), AP Computer Science A, AP Statistics, AP Chemistry, American Sign Language (3 years)</li></ul>	

## EXPERIENCE

<b>MIT CAVE Lab – Intern</b> <i>Massachusetts Institute of Technology</i>	Spring 2025 – Summer 2025 Cambridge, MA
<ul style="list-style-type: none"><li>Built a Python/Django backend for an interactive modeling app used in lab demos and outreach</li><li>Designed data pipelines enabling cross-session state sharing and simulation persistence</li></ul>	
<b>Federation for Children with Special Needs – Volunteer Data Analyst</b> <i>FCSN</i>	Sep. 2024 – Present Boston, MA
<ul style="list-style-type: none"><li>Analyzed program data and produced visualizations used in successful grant applications</li><li>Work contributed to over \$250K in awarded funding</li></ul>	

## PROJECTS

<b>NASA Drop Tower</b>   <i>Cad:Fusion 360, Onshape</i>	Oct. 2024 – May 2025
<ul style="list-style-type: none"><li>Selected Top 20 nationally in an engineering design competition</li><li>Designed CAD paddle-wheel mechanisms to operate under microgravity using capillary action</li><li>Accepted for microgravity testing at NASA</li></ul>	
<b>CubeSat</b>   <i>Python, CAD, Raspberry Pi, Electrical Engineering</i>	Oct. 2024 – May 2025
<ul style="list-style-type: none"><li>Designed a 1U CubeSat for space-based scientific research</li><li>Led system design and presentation; awarded Best Design/Presentation</li></ul>	
<b>ASL Translation Tool</b>   <i>Python, PyTorch, MediaPipe</i>	Summer 2025
<ul style="list-style-type: none"><li>Built a computer-vision pipeline to translate American Sign Language into text using hand-landmark extraction (MediaPipe)</li><li>Trained and evaluated an RNN classifier for sign recognition using labeled gesture data</li><li>Implemented real-time NLP post-processing to convert ASL grammatical structure into English word order</li></ul>	

## EXTRACURRICULAR

<b>Drone Club – President</b>	May 2025 – Present
<ul style="list-style-type: none"><li>Led instruction in drone engineering and aerial photography</li><li>Coordinated with school and city officials to film and livestream community events</li></ul>	
<b>Debate &amp; Model United Nations</b>	May 2025 – Present
<ul style="list-style-type: none"><li>Debate Club Leader; designed lesson plans and taught debate skills</li><li>Plenary speaker at NHSIMUN (3,000+ attendees); received NFL Degree with Distinction</li></ul>	

## TECHNICAL SKILLS

<b>Languages:</b> Python, Java, JavaScript, HTML/CSS
<b>Frameworks:</b> FastAPI, Django, React, Tailwind
<b>Developer Tools:</b> Git, Docker, VS Code
<b>Libraries:</b> pandas, NumPy, Matplotlib, OpenCV, PyTorch, NetworkX, OSM, Manim