

# Abhigyaan Deep

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Aerospace Engineer, Cyber Physical Systems at Iowa State University | Sophomore | 3.83 GPA  
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I am an **Aerospace Engineer** with a minor in **Cyber-Physical Systems** driven by an insatiable curiosity and a passion for turning ambitious ideas into reality. From designing and manufacturing jet engines and pioneering in autonomous robotics to building software that bridges the gap between the digital and physical worlds, I am fueled by a love for *exploration* and *self-learning*. With every project, I strive to push boundaries and inspire innovation in aerospace and beyond.

## Education

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- GPA: 3.83
- Experience in thermodynamics, structural design, and avionics modeling
- Designed combustion chambers and developed simulation systems
- Skilled in autonomous navigation, sheet metal CAR and manufacturing, and software-hardware integration

## Skills

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SolidWorks • Onshape • Cyber-Physical integration • 3D Printing • Leader • Python • MATLAB • Web design

## Projects

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### OpenUAS

- Designed and built a low-cost, open-source fixed-wing drone for educational and research use.
- Includes FPGA-based health monitoring system.
- Catapult-launched and fully 3D-printable with commercial off-the-shelf parts.
- Provided CAD files, LaTeX manuals, and GitHub version control.
- Worked in a ~14-person team under the avionics and electronics subteam.

### Combustion Chamber Design & Manufacturing J.E.T.

- Designing and manufacturing the heart of the jet engine for maximal efficiency at sea level.
- Working with rolled stainless steel and aluminum for the production body.
- Using copper & plastic 3D printing for prototyping parts.

### Founder & Maintainer | BlitzKit Hobby - <https://blitzkit.app/>

- Built a real-time visual armor simulation for 700+ tanks from WWI to the Cold War.
- Developed a GLSL-based OpenGL renderer to model shell penetration behavior.
- Simulates kinetic, explosive, and HEAT shell interactions with spaced and primary armor.
- Blended aerospace principles of fluid dynamics with material deformation.