

# Johaneev Sheelam

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United States Citizen and National

**Engineering Focus:** Propulsion systems, experimental aerospace testing, reactive/compressible flow, propulsion instrumentation, integrated vehicle systems

## Education

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<b>Embry-Riddle Aeronautical University</b>	Prescott, AZ
B.S. Mechanical Engineering (Propulsion)	December 2028
B.S. Electrical Engineering (Space)	GPA: 4.0/4.0

## Experience

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<b>Embry-Riddle Aeronautical University Research Team</b>	Prescott, AZ
<i>Rotating Detonation Engine Research: Propulsion, Test, and Structural Analysis</i>	August 2025 – Present

- Lead propulsion test architecture and systems integration for a laboratory detonation tube platform supporting future rotating detonation engine development
- Developed MATLAB-based HLLC reactive-flow solvers modeling detonation propagation, compressible flow, transient thermal conduction, and structural loading for hardware validation
- Designed and integrated a 10 MHz NI PXI-based DAQ and telemetry architecture with synchronized triggering, instrumentation routing, EMI mitigation, and post-processing workflows
- Led design reviews, operational readiness processes, instrumentation planning, and engineering safety documentation for reactive-flow testing
- Designed ignition, purge, wave-suppression, and regenerative cooling systems for controlled ethylene-oxygen detonation experiments in 17-4 PH H1100 hardware

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<b>Canyon AeroConnect</b>	Prescott, AZ
<i>Electrical Engineering Intern</i>	April 2026 – Present

- Support avionics hardware integration, electronics validation, and manufacturing workflows for flight-critical aerospace systems within ITAR-, EAR-, and DO-160-regulated environments
- Perform schematic review, PCB analysis, board bring-up, and system-level debugging to improve signal integrity and hardware reliability
- Led redesign of filtered connector architecture to resolve manufacturing lead-time constraints while maintaining EMI and impedance-matching requirements
- Generate ECOs, ECRs, EDRs, and Problem Reports while coordinating with suppliers, QA teams, and manufacturing contractors

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<b>Indian DoD Contractor</b>	Andhra Pradesh, India
<i>Reconnaissance sUAS Design Intern</i>	April 2023 – September 2023

- Led development of a reconnaissance sUAS from CAD structural design through fabrication support, flight testing, and iterative redesign
- Validated aerodynamic performance and structural integrity through 260+ hours of wind tunnel and live-flight testing under defense airworthiness constraints
- Performed failure analysis and authored technical readiness reports supporting multidisciplinary defense review teams

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<b>Agricultural Unmanned Aerial Systems</b>	Apex, NC
<i>Founder &amp; Lead Engineer</i>	May 2022 – August 2025

- Designed, built, and deployed four generations of agricultural UAV platforms for real-world field operations
- Managed aerodynamic design, propulsion integration, instrumentation, flight testing, and iterative system refinement

## Selected Publications & Presentations

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- AIAA Region II Student Conference 2026 (Published), IOP Innovations in Applied Mechanics 2026 (Approved), Acta Astronautica (In Preparation)

## Skills

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**Software:** MATLAB, Python, C/C++, LabVIEW, Altium Designer, LTspice, ANSYS, SOLIDWORKS, Fusion 360, CATIA V5, Cantera, Infor PLM

**Technical:** Reactive-flow CFD, propulsion modeling, detonation analysis, NI PXI instrumentation, high-speed DAQ systems, aerospace test operations, avionics hardware integration, telemetry and signal integrity