



CAPABILITY STATEMENT | HEXAF INNOVATIONS LLC

Space science. Mission-ready thinking.

Physics-informed AI/ML, scientific software and mission analysis for space-environment intelligence. HexaF is building Resilience: one scientific engine connecting environmental conditions to navigation, orbital, human-performance and aurora applications.

Core competencies

Space-environment science. Solar-terrestrial drivers, magnetospheric and ionospheric response, thermospheric change, radiation conditions and auroral context.

Physics-informed AI/ML. Scientific model development, data-driven inference, model comparison, uncertainty and evaluation against reference observations.

Mission support and scientific analysis. Research analysis, observation and data workflows, scientific interpretation and defined technical work packages.

Software and integration. Scientific data pipelines, prototype interfaces, reproducible analysis, dashboards, reports and appropriate cloud or edge integration.

One core. Four intelligence domains.

Domain	Resilience product direction
Orbital Intelligence	Space-weather-aware drag, orbital decay and constellation-risk context.
Navigation Intelligence	GNSS/PNT environmental-risk context for mobility, agriculture and aviation research.
Human Performance Intelligence	Radiation and environmental context for spaceflight research, including future Moon-Mars studies.
Aurora Prediction Intelligence	Auroral context and viewing-planning information, delivered through AuroraAhead AI.

Products have different maturity levels. Beta dashboards are distinct from R&D; and prototype capabilities; no offering is presented as certified navigation, autonomous maneuver authority, a medical device or a clinical service.



RESEARCH EXPERIENCE | DELIVERY | ENGAGEMENT

Focused expertise. Accountable delivery.

Current and recent scientific work

NASA Goddard Space Flight Center. Mission-related scientific analysis under an ongoing direct purchase order with a defined scope. This work does not imply NASA endorsement or validation of the complete Resilience platform.

The University of Texas at Dallas. Prior scientific research subcontract concluded September 15, 2026. A follow-on is not represented as active before final authorization.

Development foundation

Scientific leadership. Founder-led experience in heliophysics, space weather, scientific computing and physics-informed AI/ML.

In-house infrastructure. Accelerated AI/ML resources support data processing, model development, evaluation and deployment preparation. Availability for a specific operational integration is confirmed against that project's requirements.

Research and ecosystem connections. EnterpriseWorks tenancy at University of Illinois Research Park; NVIDIA Inception program membership; ACSWA membership; academic research collaboration and joint proposal development with faculty and teams at UIUC, UT Dallas, UT Arlington and Boston University.

Engagement pathways

Direct scientific R&D; specialist subcontract workshare; joint research and proposal development; prototype development; data and model integration. Each engagement establishes deliverables, reference data, evaluation criteria, uncertainty reporting and human review responsibilities.

Company and contracting information

Legal entity: HexaF Innovations LLC

Location: EnterpriseWorks, University of Illinois Research Park; Champaign, Illinois, USA

Contact: info@hexaf.io | hexaf.io/contact/

Website: hexaf.io | **Dashboard portal:** platform.hexaf.io

Current procurement identifiers, registration records, performance periods and approved scope summaries are supplied or verified for the specific opportunity. They are not asserted here without supporting records.

Government and institutional references identify only the capacities described. They do not imply institutional endorsement, product certification or an institution-wide agreement. Do not send classified, export-controlled, proprietary or patient-identifiable information through the public contact form.