SIDDHARTHA YASH KOVID

TECHNICAL LEAD | AI, AEROSPACE & MATERIALS SYSTEMS

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PROFILE

Technical lead and founder working at the intersection of autonomous R&D, advanced materials and aerospace systems. Builds funded programs, research consortia and deployable AI prototypes from first concept through institutional adoption.

SELECTED IMPACT

2
ESA prime projects secured

EIC
Seal of Excellence, 2026

WAMS 26
Invited speaker at ESA ESTEC

WINNER
StartMiUp Hackathon

CORE EXPERTISE

AUTONOMOUS R&D
Agentic AI, self-driving labs
MATERIALS
RHEA/HEA, VASP, CALPHAD
AEROSPACE
Propulsion materials, navigation
AI/ML
JAX, PyTorch, TensorFlow, CNNs, SNNs
MODELING
Differentiable ML, UKF
PROGRAMMING
Python, Java, LaTeX

EXPERIENCE & LEADERSHIP

Technical Lead
MAY 2024 - PRESENT
Bimo Tech | Germany & Poland

- Secured and finalized negotiations for a **second ESA prime contract** (July 2026); directing a dual-subcontractor consortium with **ArianeGroup** and **Fraunhofer IAPT**.
- Lead ESA-funded development of extreme-temperature materials for next-generation space propulsion and coordinate institutional partners across Europe.
- Initiated strategic investment and cross-functional work-statement discussions with the international manufacturing consortium **Abicor Binzel**.

Founder / Co-Founder
2024 - PRESENT
MARC27 & Stealth Deep-Tech Spin-off | Giessen, Germany

- Founded an AI and materials research venture developing autonomous discovery and edge-computing systems for aerospace applications.
- Spinning out an independently conceived, ESA-validated autonomous space technology with incubation support from **FUTURY** and **ECM JLU**.

Procurement Assistant
2022 - 2023
ALSO GmbH | Germany

- Coordinated inventory and equipment procurement in a high-volume technology distribution environment.

FLAGSHIP PROGRAMS

Autonomous Material Discovery Pipeline
2026 - PRESENT
ESA / NASA Framework

- Authored and secured funding for an agentic, closed-loop discovery pipeline combining machine learning with self-driving laboratories for extreme-temperature space materials.
- Presented the architecture at a leading lunar conference, securing technical validation and active backing from **ESA** and **NASA** stakeholders.

Project SPARK - Advanced Propulsion Materials
2024 - PRESENT
ESA-funded consortium | ArianeGroup, IPPT PAN

- Developing extreme-temperature alloys for next-generation space propulsion within a multi-institution European program.

Differentiable ML Modeling
2026 - PRESENT
Horizon Europe / EIC Pre-Accelerator | Fraunhofer

- Authored a production scale-up proposal awarded the **European Innovation Council Seal of Excellence**.
- Co-developing differentiable ML models to simulate and analyze complex fluid and pool dynamics.

Cross-Navigation State Estimation
2026 - PRESENT
ESA Joint Consortium | University of London

- Designed a novel Unscented Kalman Filter architecture for advanced space cross-navigation and co-authored a multi-institution ESA proposal.

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SELECTED PROJECTS, RECOGNITION & CREDENTIALS

Giessen, Germany | 2026

TECHNICAL SKILLS

AI / ML

JAX, Differentiable ML, CNNs, SNNs, Transformers, CBAM

STATE ESTIMATION

Unscented Kalman Filters, cross-navigation

RESEARCH SYSTEMS

Agentic pipelines, self-driving labs

MATERIALS

RHEA/HEA, VASP, CALPHAD, OPTIMADE

PROGRAMMING

Python, Java, LaTeX

EDUCATION

THM Giessen
B.Sc. Medical Engineering
Expected 2027

Studienkolleg Coburg
Technical Foundation
2023 - 2024 | Grade: 2.3

SMMH Medical College
Medical Studies (discontinued)
2019 - 2020 | NEET: 98.7 percentile

City Montessori Inter College
High School - Science
Final grade: 87%

CERTIFICATION

MIT Professional Education
Applied AI & Data Science
Feb 2026 | Grade: 100%

Capstone
Facial emotion recognition with a CBAM-enhanced CNN architecture

TestAS - Core 100, Subject 106
UNSW Global Assessment - Science Distinction

LANGUAGES

German (C1)
English (C1)
Hindi (Native)

AFFILIATIONS

IEEE Germany Chapter
Member, IEEE Giessen Chapter

ADDITIONAL TECHNICAL PROJECTS

PRISM - AI Materials Discovery

2024 - PRESENT

ArianeGroup, Fraunhofer IAPT & IPPT PAN

- Building an agentic platform to compress materials discovery cycles from years to months through automated research planning and evidence synthesis.

FRANKEN-SoC - Neuromorphic Edge AI

2025 - PRESENT

Biomedical signal-processing project

- Neuromorphic edge-AI concept for wearable biosignal monitoring, validated at **99.1%** on MIT-BIH.

Vingilot - Extended UAV Endurance

2025 - PRESENT

Wireless power & target acquisition

- Developing wireless power transmission and LEO-augmented target acquisition for persistent drone operations, targeting a 50-100% endurance improvement.

AWARDS & COMPETITIONS

Winner & MVP Architect - StartMiUp Hackathon

JUNE 2026

Abicor Binzel Challenge | StartMiUp 2026

- Designed and deployed an AI MVP that converts raw video into precise, step-by-step technical assembly instructions.
- Converted the prototype into a formal corporate engagement to develop a universal, deterministic edge translation standard.

State Finalist / Nominee - Hessischer Ideenwettbewerb

2026

Hessian Ideas Competition (HIW)

- Nominated by THM Giessen leadership and advanced to the statewide voting shortlist for an ESA-validated aerospace concept.

PUBLICATIONS & SPEAKING

Invited Speaker & Author - WAMS 26

JUNE 2026

3rd Workshop on Advanced Manufacturing for Space Applications | ESA ESTEC, Netherlands

- Published and presented an accepted technical paper and abstract on advanced aerospace manufacturing systems.

Lead Author - "Cross-Sensor Trust for Spoof-Resilient GNSS/INS Navigation"

NAVICON 2026

NAVICON 2026 manuscript | with Kevin Grüning

- Introduces KC-UKF for spoof-resilient cross-sensor trust in GNSS/INS navigation. Related preprint: "Kinematic Compatibility-Field UKF for Multi-Sensor Fusion Under Adversarial Degradation" - DOI: 10.5281/zenodo.19506045.