Taame Ilyasse

Munich, Germany

+49 157 34404073

ilyassetaame@gmail.com

https://itaame.github.io/PortFolio/

Space and aviation enthusiast recently completed a dual-degree M.Sc. majoring in Avionics & Human Spaceflight (Oct 2025), with hands-on control-room experience as Head of MCC during the ASCLEPIOS analog mission. Proficient in XTCE, and CCSDS-based telemetry and telecommand systems, with practical exposure to real-time trending, FOP execution, and anomaly response. Skilled in avionics development (ARP 4754A) and system integration/testing (DO-254, DO-178C). Curious to know more about my journey and projects? You're welcome to visit my Portfolio.

EXPERIENCE

Feb 2025 - Aug 2025
Ottorbrunn, Germany

Master Thesis : Real-Time Monitoring of Environmental and Biomedical Data - *Human Spaceflight Technology, TUM*

- Designed the complete electronics architecture for the Environmental Control & Life Support Systems and wearable biomedical sensors of an analog mission, from trade-off analysis, component selection, interface definition, redundancy concepts, all the way to assembly, integration, and testing (AIT).
- Built a low-latency telemetry pipeline that ingests ECLSS and wearable biomedical streams into a flight controller's dashboard for real-time trend analysis, mirroring ISS-style console practice.
- The system, based on CCSDS Space Packet Protocol, achieved an overall PL < 1 %, 98.152 % of the 16-day mission time with zero-Loss, and an average latency of 21.24 ms.

Jul 2024 - Aug 2025
Lausanne, Switzerland

Head of Mission Control Center - *Asclepios, EPFL*

- Architected the ground segment telemetry & telecommand system using YAMCS, including XTCE-based parameter databases, command dictionaries, TM/TC packet definitions, and interface control in alignment with ECSS/CCSDS standards.
- Managed critical data from ECLSS and biomedical sensors, supporting medical and science teams.
- Developed voice-communication software implementing DLR's Voice Communication Subsystem (*openVoCS*) loop logic for mission-control operations.

Jul 2025 - Sep 2025
Bordeaux, France

Avionic-Systems & GUI - *ESA Academy*

- Performed AIT of the full avionics rack, including complete verification of sensor chains, power distribution units, fuses, EMI/EMC considerations, relay boards, and electro-mechanical actuators.
- Designed and built a real-time flight-ops GUI that fuses 15 sensor channels telemetry, FLIR video, and live g-level classification into a single dashboard used on the A310 Novespace Zero-G aircraft.
- Conducted flight-readiness tests and produced detailed test reports validating the system performance, contributing to three nominal flights in Bordeaux, France.

Jan 2024 - Jul 2024
Garching, Germany

Semester Thesis: HiL Simulation Environment for Avionic systems - *Institute of Flight System Dynamics, TUM*

- Development of a HiL Simulation Environment for the avionic systems of the Airbus Urban Mobility Airship using the TechSat ADS2 HiL PC.
- Integrated the ADS2 with a dedicated visualization PC running Microsoft Flight Simulator (MSFS) via UDP messages transmitting aircraft state according to the flight dynamic model.
- Successful HiL Test of the Ground Control Station communications with the Airship.

May 2022 - Aug 2022
Paris, France

Avionics Intern - *Centre National d'Études Spatiales, CNES*

- Designed and validated avionics PCB for acquisition and control in sounding rockets.
- Performed bench validation ensuring full system compliance with performance and EMC standards.
- Developed connectivity between mission control and launch pad using MQTT protocol, contributing to the nominal launch of SERA IV rocket from Kiruna, Sweden.

EDUCATION

Sep 2022 - Sep 2025
Garching, Germany

M.Sc. Major: avionics & human spaceflight -*Technical University of Munich*

- Relevant Coursework: Spacecraft Electronics, Human Spaceflight, Safety and Certification of Avionics and Flight Control Systems, Operational Flight Safety, Environmental Conditions and Environmental Simulation in Space.

Sep 2020 - Sep 2025
Lyon, France

M.Eng. & B.Eng. Major: Electrical & Electronics engineering – *Ecole Centrale de Lyon*

- Relevant Coursework: Electronic systems, Power Electronics, Electrical energy and Systems Control, Analog to Digital and Digital to Analog conversions.

PROJECTS AND LABS

Flight Director – ASCLEPIOS V	Led real-time operations as Flight Director during rotating 24/7 mission control shifts.
Analog Astronaut – ASCLEPIOS IV	Completed a 2-week underground-fortress isolation with a multinational crew, executing 15 human-spaceflight experiments.
Flight Testing Lab – TUM	Prepared FTCs, instrumented a DA-42 simulator, executed 12 performance & stability tests, and analyzed results in line with flight-test regulations.
Flight Control Systems Lab – TUM	Implemented DO-178C/DO-331-compliant flight-control algorithms, integrated ARINC825 links & redundant EMAs, and validated designs through PIL/HIL on the DA-42 simulator.
WARR Rocketry – Nixus Project	Drafted the test-bench concept for the PFC, producing schematics, BoM, and an HIL validation plan for pyro, valve and sensor interfaces.

Papers

IAC-25, main author	Human-centered protocol innovations for biomedical and environmental monitoring in human spaceflight
IAC-25, co-author	Testing A Magnetohydrodynamic Photobioreactor Concept in Microgravity - the MVIPER Experiment

SKILLS

Mission Operations	ECSS, CCSDS, YAMCS, GMV tools (EFN, GCACK, CLOG).
Avionics Communication Protocols & Interfaces	CAN, ARINC825, ARINC429, RS232, RS485, TCP/UDP, MQTT.
Mechanical and Electronic Systems	Catia V5, SolidWorks, Altium Designer, KiCad, Proteus.
Programming and Simulation	Python, C/C++, MATLAB, Simulink.
MBSE & Requirements Management	Cameo SysML, DOORS, Polarion.

LANGUAGES

English	Professional Proficiency - TOEFL ITP 643/677
French	Native language
Arabic	Native language
German	Elementary Proficiency - Learning