

# TAAHIR MOHAMED

Aerospace Engineer | Structures & UAV Systems | MSc University of Sheffield  
Dubai, UAE • +971 507356033 • taahirmohamedwork@gmail.com • linkedin.com/in/taahirmohamed

---

## PROFESSIONAL SUMMARY

---

Results-driven Aerospace Engineer with an MSc from the University of Sheffield and hands-on experience in UAV systems development, structural analysis, and avionics integration. Proven track record delivering complex engineering projects including a successfully launched CubeSat and an autonomous medical delivery UAV for the NHS. Proficient in ANSYS FEA, CATIA V5, MATLAB, and Python. Currently based in Dubai with a valid UAE residence visa, available for immediate start.

## WORK EXPERIENCE

---

**Project Manager – Autonomous UAV** | *National Health Service (NHS)* Nov 2023 – Sep 2024  
*University of Sheffield Collaborative Project, Sheffield, United Kingdom*

- Led a 5-person multidisciplinary team to design and build an autonomous gyrocopter UAV capable of delivering medical payloads up to 1kg over a 3km range for NHS logistics trials.
- Executed Software-in-the-Loop (SIL) and Hardware-in-the-Loop (HIL) testing cycles, reducing system fault rate by 40% prior to field deployment.
- Correlated real flight test data with MATLAB simulation models, iteratively tuning control parameters to achieve stable autonomous flight.
- Coordinated weekly cross-functional reviews across avionics, structures, and software sub-teams, ensuring on-time delivery against a 10-month project timeline.

**Avionics Systems Engineer** | *SUNSAT CubeSat Programme* Sep 2023 – Aug 2024  
*University of Sheffield, Sheffield, United Kingdom*

- Designed and built a modular CubeSat payload system enabling integration of 3+ diverse payloads within a 1U form factor, contributing to a successful low-orbit launch.
- Manufactured key structural CubeSat components via 3D printing, cutting prototype iteration time by approximately 60% compared to conventional methods.
- Analysed post-integration test data and optimised structural geometry using MATLAB and CFD tools, improving thermal and load-bearing performance.

**UAV Design Intern** | *Brahmastra Aerospace Systems* May 2021 – Aug 2021  
*Chennai, India*

- Designed and validated a quadcopter UAV with an integrated SOS feature for casualty detection in disaster scenarios, demonstrating reliable operation across obstacle-rich simulated environments.
- Redesigned a re-entry space capsule structure using AutoCAD and ANSYS, performing thermal and structural deformation analysis under simulated re-entry conditions.
- Validated structural integrity and material behaviour through MATLAB-based data analysis, confirming design safety margins.

**STEM Teacher** | *Al Sadiq Islamic English School – MH Intellect* Aug 2025 – Present  
*Dubai, United Arab Emirates*

- Delivering aerospace, robotics, and drone programming education to 200+ primary and secondary students while actively pursuing aerospace engineering roles in structures and UAV systems.
- Introduced LEGO robotics and drone coding curricula, coordinating innovation challenges that increased student STEM engagement scores by 30%.

## EDUCATION

---

**MSc Aerospace Engineering** | *University of Sheffield* Graduated Jan 2025  
*Grade: Merit (69%) | Thesis: Autonomous UAV Gyrocopter System for NHS Medical Payload Delivery*

**BTech Aeronautical Engineering** | *Hindustan Institute of Technology and Science* Graduated 2022  
*Grade: First Class (81%)*

## KEY PROJECTS

---

### **Kevlar Composite Materials Research — Published**

- Investigated the effect of nanosilica and MWCNT reinforcement on Kevlar composites, achieving up to 271% improvement in shear strength — findings published at IOP ICMSE 2022 conference.

### **Medical Emergency Autonomous Drone**

- Designed a waypoint-based autonomous delivery drone integrating GPS navigation and flight stability modules via UAV Toolbox and Mission Planner; validated across 5 simulated terrain scenarios.

## TECHNICAL SKILLS

---

**Simulation & Analysis:** ANSYS Mechanical (FEA), MATLAB, Simulink, Python, CFD tools

**CAD & Design:** CATIA V5, SolidWorks, AutoCAD

**UAV Systems:** ArduPilot, Mission Planner, SIL/HIL Testing, UAV Toolbox, Drone Programming

**Programming:** Python, MATLAB, C++, Linux

**Compliance & Standards:** EASA, FAA, UK MAA airworthiness frameworks

**Soft Skills:** Cross-functional team leadership, Project management, Technical documentation

## PUBLICATIONS & CERTIFICATIONS

---

- IOP Conference Series: Materials Science & Engineering — Kevlar Nanocomposite Research (ICMSE, 2022)
- Google IT Automation with Python Professional Certificate (Google, 2025)
- Modeling and Simulation with Simulink (MathWorks, 2025)
- Big Data, Artificial Intelligence, and Ethics (University of California, 2020)