

A Passion for Aerospace: Designing and 3D Printing the JF-17 Thunder

I am pleased to recommend **Muhammad Yahya Amir** for his outstanding **passion project** titled "**A Passion for Aerospace: Designing and 3D Printing the JF-17 Thunder**," completed under the auspices of the NSTC during a tenure from March 1, 2025, to June 15, 2025. As a high school student with a keen interest in **engineering** and **aviation**, Yahya demonstrated exceptional **initiative** by conceptualizing, modeling, and fabricating a detailed scale model of the **JF-17 Thunder** multirole combat aircraft.

This work supports his **aerospace engineering** applications, demonstrating self-directed **practical skills**. Using **SolidWorks**, he designed components like **fuselage**, **wings**, **tail rudder**, **nose cone**, **air intakes**, and **exhaust** via **lofting**, **revolving**, and **mirroring** for **aerodynamic accuracy**. He 3D-printed it on a **Wanhao i3**, optimizing **Cura** for **orientation**, **layer height**, **infill**, and **supports**. Consulted mentors: **Engr. Sahab Hafeez** and **Mr. Talha Mehmood**.

The project focused on **engineering principles**, **problem-solving** in CAD/printing, and **creativity** with tech. Yahya addressed **tolerances** and documented well, proving **proficiency** in **CAD** and **additive manufacturing**. In our firm's special project, he displayed **leadership** by tackling **challenges**, asking **insightful questions**, and proposing **improvements** valued by engineers.

This work testifies to Yahya's potential for **university-level studies** and contributions to aerospace. I endorse him for **scholarships**, and **programs** in engineering - his **dedication** and **hands-on approach** make him exceptional.

Sincerely,



Fazeelat

Manager HR – Quantum Universal SMC Pvt. Ltd.