Rocket Rookies – NASA Space Apps Challenge 2025

Project: **ImpactVisualizer.earth** — Tackling "Meteor Madness" with Data and Design

We are **Rocket Rookies**, a diverse and forward-thinking team of innovators passionate about making science engaging, interactive, and accessible. For the **NASA Space Apps Challenge 2025**, we're taking on the "**Meteor Madness**" challenge with our project **ImpactVisualizer.earth** — an interactive web-based simulation tool that visualizes potential meteor impacts on Earth. By combining science, technology, and creativity, our goal is to transform complex meteor data into a dynamic, user-friendly experience that informs, educates, and inspires.

Meet the Team

Hafsa Mahmood – Electrical Engineer & Tech Enthusiast

Hafsa is an Electrical Engineer at an MEP consultancy firm, specializing in power and electrical systems design. A recent graduate with a strong passion for power systems and modern technology, she brings analytical precision and multidisciplinary insight to the team. Hafsa thrives in hackathon environments, enjoys coding, and is eager to apply her technical and organizational skills to real-world innovation. As part of **Rocket Rookies**, she contributes to project documentation and coordination efforts for ImpactVisualizer.earth.

Muhammad Qasim Gill – Full-Stack Web Developer

Qasim is a Full-Stack Web Developer with nearly three years of experience in building scalable, interactive web applications. Proficient in React.js, Node.js, Express.js, MongoDB, Python, SQL, and PHP, and experienced with Bootstrap and Tailwind, he has previously worked at MetaViz Pro. His expertise in data visualization, backend architecture, and UI design ensures **ImpactVisualizer.earth** delivers a seamless, high-performance user experience.

Shaurya Tamang – Developer & Simulation Enthusiast

Shaurya is a versatile developer with a deep interest in web development, robotics, machine learning, 3D graphics, and simulations. Skilled in React, React Three Fiber, Python, and key machine learning libraries, he leads the creation of **ImpactVisualizer.earth**'s 3D meteor impact simulation. His focus on interactivity and design brings scientific data to life, allowing users to visualize and explore meteor trajectories and effects in real time.

Chris Thomas Neel – Robotics & Python Developer

Chris is an enthusiastic robotics and coding developer skilled in Python and Tkinter, with a passion for building interactive and logical tech solutions. At Rocket Rookies, he contributes to the testing and quality assurance of **ImpactVisualizer.earth**, helping refine user interactions and ensure consistent performance across the platform.

Our Approach

By merging engineering insight, software expertise, and immersive visualization, **Rocket Rookies** is building **ImpactVisualizer.earth** — a platform that turns scientific meteor data into an engaging, educational experience. Users can simulate meteor trajectories, visualize impact energy, and analyze potential outcomes, fostering better understanding of planetary defense and impact science.

• [Shaurya Tamang](#) – Lead 3D Visualization & User Interface Development
Responsible for creating the interactive 3D simulation, rendering objects, and designing intuitive UI elements.

• [Muhammad Qasim](#) – Lead 2D Visualization & User Interface Support
Responsible for 2D visualizations, UI enhancements, and ensuring smooth integration with the simulation.

• [Hafsa Mahmood](#) – Documentation & Reporting Specialist
Responsible for preparing detailed project documentation, summarizing technical aspects, and coordinating reports.

• [Chris Thomas Neel](#) – Junior Quality Assurance & Testing Support
Responsible for assisting in testing features, identifying issues, and supporting overall project quality.

Our Vision

Through **ImpactVisualizer.earth**, we aim to make meteor science more interactive, accessible, and visually engaging. By blending technology and education, Rocket Rookies hopes to inspire curiosity, foster awareness, and empower people to explore the dynamic relationship between space and Earth — one impact at a time.