

# NOVEMBER HIGHLIGHTS 2025

## Lab of Future — Collaborations, Innovation & Global Expansion

November marked a defining month for us, strengthening our position at the intersection of education, technology, and industry. Breakthrough collaborations, university partnerships, AI and robotics innovations, and large-scale school engagements across the UAE and India expanded the reach of our STREAMER ecosystem.

These initiatives are creating unmatched opportunities for students, offering future-ready programs for schools, and building new industry pathways that connect young talent with the world of space, engineering, and emerging technologies. Lab of Future continues to empower the next generation to imagine, design, and lead the innovations of tomorrow.



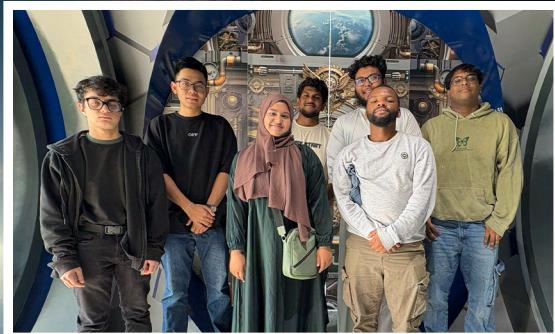
# IN-SCHOOL WORKSHOPS & UNIVERSITY ENGAGEMENT

## Curtin University – Advanced Robotics Workshop

Our Mechatronics Engineer led a 2-hour session on **Computer Vision & Gesture Robotics**, giving university students high-level engineering exposure.

## MSB School – Science Day Jury

LOF served as the **official jury panel** for MSB School's Science Day, evaluating student innovations across engineering, robotics, and space science.



CURTIN UNIVERSITY – ADVANCED ROBOTICS WORKSHOP

## School Engagements & Lab Experiences

LOF welcomed multiple UAE schools for hands-on STREAMER sessions and lab tours.

### Lab Tour Visits:



MSB SCHOOL – SCIENCE DAY JURY



GEMS WELLINGTON ACADEMY



GEMS FOUNDERS SCHOOL



GEMS WINCHESTER



CITY SCHOOL INTERNATIONAL



RAFFLES WORLD ACADEMY

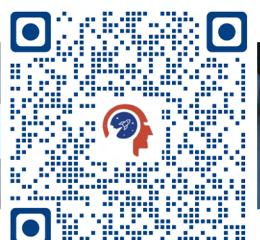


ECOLE FRANCAISE INTERNATIONALE - SHARJAH

**JANUARY  
LAB  
TOURS**

**LIMITED SLOTS REMAINING  
BOOKING IS NOW OPEN.**

**SCAN TO REGISTER**



# ECA ANNOUNCEMENTS

## NEW AFTER-SCHOOL CLUBS LAUNCHED

We have officially launched a series of hands-on **after-school enrichment clubs** across leading UAE schools:

**Dwight School** – Aeromodelling Club

**Raffles World Academy** – Space & Astronomy Club

**GEMS Wellington** – Space Robotics Club

**GEMS Legacy** – Cyber Safety & 3D Printing Club

These clubs bring LOF's STREAMER learning directly into school campuses, giving students weekly access to real engineering, aerospace, robotics, and digital safety experiences.



## PARTNERSHIPS & COLLABORATIONS

### Google

#### Google Partnership

A landmark tie-up with Google now enables students, trainers, and teachers to access professional certificate programs through Google Learning. This collaboration also opens exclusive access to Google Dubai offices for educator and student workshops — strengthening LOF's vision of future-ready digital learning.



#### Britannica x LOF

Britannica's academic content and in-school services will now be delivered through the LOF App, enriching STREAMER learning across partner schools.



**Projection House – Technology Integration Partner**  
LOF is now partnered with **Projection House**, UAE's leading AV and IT solutions provider, supporting lab setup, interactive classroom technologies, and immersive environments.

## EVENT PARTICIPATION IN THE UAE

MAJOR EVENTS & CONFERENCES

#### STEM MENA CONFERENCE

LOF participated in STEM MENA Conference, opening new pathways across Uganda, Qatar, Oman, and Abu Dhabi, strengthening LOF's regional expansion.



**GESS DUBAI 2025**  
LOF showcased STREAMER learning, research pathways, and innovation labs at **GESS Dubai**, engaging with school leaders and international educators generating strong partnership interest across the UAE.

# WINTER INTERNSHIPS & CAMPS

**WINTER CAMP — Returning for Year 2: Build, Invent & Float Like an Astronaut**

Back by overwhelming demand, the **Lab of Future Winter Space-Tech Camp** returns for **Year 2** — bigger, bolder, and packed with unforgettable experiences.

This isn't a regular camp. It's a hands-on space-tech adventure where students **build their own universe**.

## What Students Will Do

- Build the **Solar System** on scale
- Try the **Moon Walk** to explore gravity
- Fly and program **autonomous drones**
- Launch **water rockets**
- Build **hydro-powered elevators**
- Design **3D-printed space tools & rockets**
- Navigate **Mars Rovers** through mission-style challenges

## BONUS

Students will **FLOAT** in **Zero Gravity** — a real astronaut-like experience that becomes the highlight of their winter.



**FREE Transport Across Dubai**



**Free pick-up and drop-off from 40+ locations across the city.**



**Expo City Dubai | Karama**



**Camp Dates: Dec 8-Dec 19  
Dec 21- Dec 30**



**SCAN QR CODE FOR REGISTRATION**



# WINTER INTERNSHIPS for High School & Under Graduate Students Now Open!

## SCIENTIFIC INQUIRY (AGES 15-18)

A hands-on engineering internship where high-schoolers build real AI & IoT prototypes and walk away with a strong, university-ready project.

## ADVANCED SCIENTIFIC INQUIRY (AGES 19-24)

A research-intensive track for undergraduates to design autonomous systems and produce industry-grade documentation.

## NEW FOR THIS YEAR A MAJOR BONUS!

Dates: Dec 8-Dec 19 Dec 21- Dec 30

Every intern receives an official KHDA-certified internship credential — a government-recognized certificate that instantly strengthens university applications, CVs, and scholarship profiles.



SCAN QR CODE FOR REGISTRATION

## FIRST LEGO LEAGUE — GLOBAL ROBOTICS COMPETITION PREP

Under the mentorship of our trainers, Lab of Future teams are in full preparation mode for the FIRST LEGO League Global Robotics Competition, actively training across both official divisions:

**FLL Challenge (Ages 9-16)** — Advanced robot engineering, mission strategy, coding optimisation, mechanical redesign, and innovation project development.

**FLL Explore (Ages 6-10)** — Foundational robotics, creative prototyping, teamwork, and model-building aligned with FLL global themes.



Throughout November, students trained on:

- 1 OFFICIAL FLL MATS AND MISSIONS
- 2 ROBOT DESIGN AND REBUILD CYCLES
- 3 AUTONOMOUS MOVEMENT ACCURACY
- 4 SENSORS, ATTACHMENTS, AND MULTI-TASKING MECHANISMS
- 5 INNOVATION PRESENTATIONS AND JUDGING CRITERIA

OUR TEAMS ARE NOW GEARING UP TO REPRESENT THE UAE ON THE INTERNATIONAL FLL STAGE. THIS YEAR, LOF IS POSITIONED TO FIELD ONE OF THE STRONGEST, COMPETITION-READY COHORTS IN THE REGION.

## AI PROGRAM

Our AI program advanced with students building real-world intelligent systems and trainers pushing deeper into applied machine learning and computer vision.

### BRAIN TUMOR DETECTION PROJECT

Interns **Nikhil Kumar** and **Sarbojit Biswas** built a deep-learning pipeline to identify and segment brain tumors from MRI scans using TensorFlow, Keras, OpenCV & NumPy.



### DEEP SPACE COMMUNICATIONS PROJECT

Python Level 3 student **Shangcheng Cai** developed a simulated signal-decoding system capable of filtering and interpreting cosmic data transmissions.

### AI-POWERED GESTURE LIGHTING SYSTEM

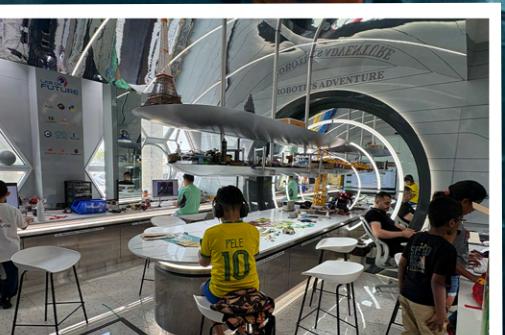
Our AI trainer built a real-time gesture-controlled lighting system integrating computer vision with a 30-amp multi-channel controller — showcasing advanced hardware-meets-AI engineering.

## ROBOTICS PROGRAM

The robotics division saw major progress as students engineered new robotic systems and trainers developed improved, more efficient builds for advanced learning.

### TRAINER ACHIEVEMENTS

**DEVELOPED 6 NEW HAND-GESTURE ROBOTS WITH SIMPLIFIED CONTROLLERS**  
**CREATED A SOFT LANDING CUBESAT WITH TILT-SENSING ALARMS**  
**BUILT A BLUETOOTH-CONTROLLED MARS ROVER WITH CUSTOM APP**  
**CONDUCTED A COMPUTER VISION & ROBOTICS WORKSHOP AT CURTIN UNIVERSITY**



# STUDENT ACHIEVEMENTS

## ROBOTIC ARM

Our student **Ismail Shabbir** built and controlled a full 6-DOF robotic arm using sensor-based mechanisms, demonstrating advanced robotics skills at just 11-14 years old.

## 4x4x4 LED CUBE

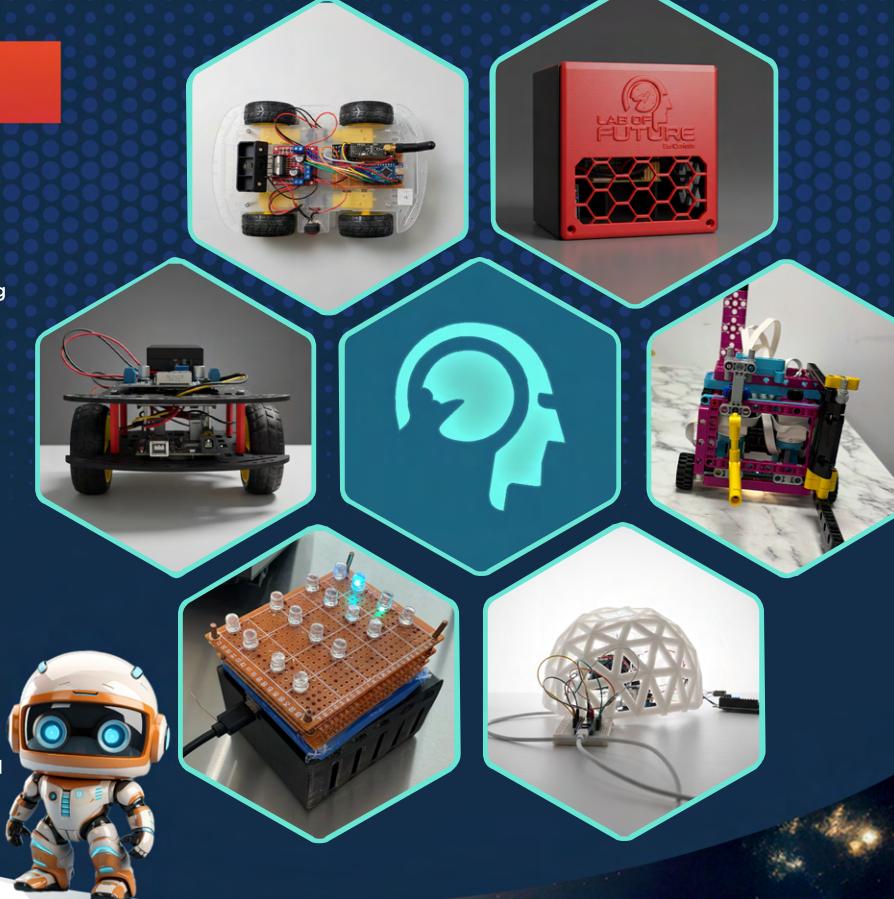
Meet **Mistry** designed and programmed a complete 4x4x4 LED Cube, creating custom Arduino animations through complex wiring and matrix logic.

## BLUETOOTH CAR

**Saeed Abo Safia** engineered and coded his own Bluetooth-controlled car, including a custom mobile app built through MIT App Inventor for real-time control.

## IOT MARS HABITAT

**Ahan Ajit Iadhav** developed an IoT-powered Mars Habitat prototype capable of monitoring temperature, humidity, and gas levels using live sensors and the Blynk platform.



## SPACE & ASTRONOMY PROGRAM

Space & Astronomy expanded with new research pathways, hands-on engineering builds, and large-scale student engagements across major space events.



## COMPUTATIONAL ASTROPHYSICS INTERNSHIP – LAUNCHING DECEMBER

LOF's first university-level astrophysics internship begins, focusing on computational modeling and scientific research.

## ATHARVA LEVEL 5 – HYDRAULIC PLANETARY ARM

Students built a hydraulic robotic arm designed for simulated planetary exploration.



## NASA SPACE APPS CHALLENGE – JUDGE

LOF participated as a jury member for the Hyderabad chapter of the global NASA Space Apps Challenge.



## SPACE WEEK CELEBRATIONS – EXPO CITY & BC ACADEMY

Engaged 2,000+ learners through rover missions, astronomy challenges, VR ISS missions, and hands-on STREAMER labs.

## AERODYNAMICS PROGRAM

Aerodynamics made strong strides with students mastering design-to-testing workflows and trainers advancing high-precision aerospace prototype

### AIRFOIL DESIGN, SIMULATION & WIND TUNNEL TESTING

Our student Omkar designed six different airfoil profiles using 3D CAD software, fabricated each model with LOF's 3D printers, and conducted full aerodynamic analysis through simulation and wind-tunnel testing. This complete workflow — design — fabrication — testing — has given him a deep understanding of aerodynamic behaviour and experimental engineering.

### RC PARAGLIDER DEVELOPMENT

The Aerodynamics team has completed a fully functional RC Paraglider, including 3D-designed structural components and an integrated transmitter-receiver system for remote control. This project introduced students to lightweight structures, aerodynamics, stability, and real RC flight mechanics, giving them hands-on experience with real aerospace engineering concepts.

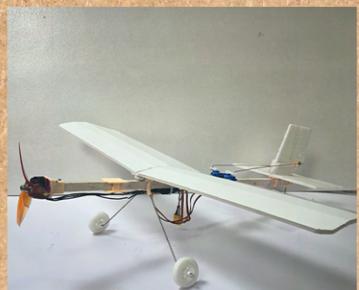
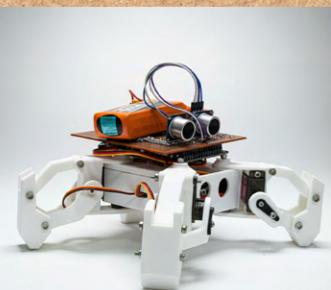


## CURRICULUM TEAM PRODUCTION & PROTOTYPE PROGRESS

The Curriculum team accelerated prototype development, documentation, and multi-grade STREAMER content to support upcoming school programs.

### ROBOTICS DEPARTMENT

**Completed:** Atmosafe, Quadruped  
**In Progress:** Hexapod  
**Trainer & Student Manuals:** Atmosafe • Hexapod  
• Lost Bot's Sense Recovery Rover



Robotics Department

Aerospace Department

### AEROSPACE DEPARTMENT

**11-14 yrs:** Darrius Turbine • Delivery Drone • Emergency Messenger System • CubeSat • UTTM  
**8-10 yrs:** Solar Station • Collision Avoidance Drone • Space Capsule • Hydro Rocket • 3-Channel RC Plane

### SPACE & ASTRONOMY DEPARTMENT

Phase 1 documentation for 8 projects completed. Weatherscope & Terracore awaiting 3D shells. Planetary Dynamics in build phase.



Space and Astronomy Department

### COMPUTER SCIENCE & IT

8 prototypes completed (Phase 1)  
• **Code Runner (Python Compiler):** Levels 1 & 2 completed; Level 3 in progress  
• **TimeWise App:** Phase 2 launched with new developer debug tools



Computer Science and IT

## GLOBAL OUTREACH — INDIA & UAE

Our team connected with leading institutions across Chennai and Delhi, India. These discussions strengthen LOF's global ecosystem and build future opportunities for **joint programs, competitions, and student exchanges** for our Dubai learners.

### Programs Introduced

Zero Gravity Camp, Week Without Walls, Innovation Labs, Research Internships, and Space Tracks.

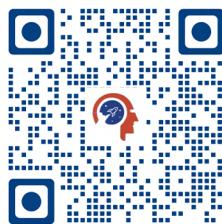
### INDUSTRY FORUMS & STRATEGIC MEETINGS

LOF represented at major platforms — **New India Education Summit, International Space Conclave, DIDAC, National Science Centre, and National Book Trust** while building ties with **ISRO, ISPA, Space Networks, and Britannica**.

These collaborations will continue opening new academic and innovation pathways for our students in Dubai.



Stay tuned — the future is about to get even bigger.



FOLLOW THE JOURNEY

## ZERO GRAVITY WORKSHOP FOR INTERNATIONAL STUDENTS

Azercosmos Space Academy – 6-Day International Program (8-13 Nov)

Lab of Future hosted a **high-impact 6-day Zero Gravity & Space-Tech Workshop** for students flying in from **Azerbaijan** — marking one of our most ambitious international collaborations to date.

- Hands-on space technology workshops
- Robotics, AI, and engineering build sessions
- Astronaut-style challenges & Zero Gravity simulations
- Deep-dive introductions to space sciences and missions
- Immersive STREAMER learning across real-world prototypes

Beyond the classroom, the cohort also explored the **cultural side of Dubai**, making it a truly global learning journey.

A milestone program that showcases LOF's growing international footprint — and positions Dubai as a hub for next-generation space education.



## WHAT'S COMING IN DECEMBER — STAY TUNED!

December is shaping up to be one of LOF's biggest months yet. Along with Winter Camps and Research Internships, we're gearing up to reveal **major new partnerships**, launch **high-impact initiatives**, and announce **global opportunities** that will place our students on international platforms. A lot more action, innovation, and breakthrough news is coming your way.