

# EAU **Alx**pl<sup>o</sup>re 2025

**IRADA** Intra-University

Innovation Challenge in AI, Data  
Science & Robotics

**October  
2025**

[Register Here](#)



*Organized by*  
the IRADA Innovation Centre,  
Faculty of Mathematics and Data

## Introduction

The **Centre for Innovation in Robotics, Artificial Intelligence, Data Science, and Aviation (IRADA)** at Emirates Aviation University is excited to announce **EAU Alxplore 2025: IRADA Intra-University Innovation Challenge in AI, Data Science & Robotics**—a prestigious platform for undergraduate students from various disciplines to demonstrate their creativity, problem-solving skills, and technical expertise in Artificial Intelligence, Data Science, and Robotics.

This initiative is part of the ongoing efforts of the IRADA Innovation Centre, under the **Faculty of Mathematics and Data Science**, to support undergraduate, postgraduate, and PhD students in conceptualizing and advancing their innovative ideas and research projects.

The competition is structured in two phases:

- **Project Proposal Submission (April 30, 2025 – Wednesday):** Students will submit proposals addressing key challenges in Data Science, Artificial Intelligence, and Robotics across various sectors. Shortlisted proposals will advance to the next round.
- **Final Project Submission & Presentation (October 2, 2025 – Thursday):** Selected teams will develop and present their projects before a panel of expert judges on competition day. The most outstanding and innovative projects will be recognized with prizes and certificates.

To support students throughout the competition, **shortlisted participants** will be provided with **targeted workshops and learning resources**. These will include sessions/workshops on **basic programming skills in Python** and **essential tools such as Excel, Power BI, and MATLAB**, tailored to each project's specific requirements. This support aims to empower students to strengthen their technical foundation and effectively implement their ideas during the competition period.

We invite all undergraduate students passionate about **Artificial Intelligence, Data Science, and Robotics** to participate, innovate, and contribute to cutting-edge technological advancements that can drive real-world impact.

## Topics

### Project topics includes (but not limited to):

Participants are encouraged to submit proposals related to Data Science, AI, Robotics, and their applications in various sectors. Suggested fields include but are not limited to:

1. **Healthcare** – AI in healthcare is transforming patient care by enabling faster, more accurate diagnoses, predicting disease outbreaks, and optimizing hospital operations. By leveraging data science and AI, students can contribute to developing smarter healthcare solutions that enhance medical outcomes and improve quality of life. AI-driven diagnostics, predictive analytics, and automation in healthcare are critical areas where students can make a significant impact.
2. **Aviation** – The aviation industry relies heavily on AI and data science to improve flight efficiency, passenger experience, and aircraft maintenance. Projects in this domain can focus on optimizing flight schedules, reducing fuel consumption, or using predictive analytics to enhance aviation safety. AI-enhanced air traffic control,

predictive maintenance, and data-driven efficiency in aviation offer students the opportunity to contribute to the industry's technological advancements.

3. **Smart Cities** – With urban populations increasing, AI-driven smart city solutions are vital for optimizing traffic flow, enhancing energy efficiency, and improving public services. Students can propose projects that contribute to making cities more livable, sustainable, and technology-driven. AI-powered intelligent transportation systems and urban development solutions hold great potential in reshaping urban landscapes.
4. **Cybersecurity** – As digital threats become more sophisticated, AI-driven cybersecurity solutions are crucial in protecting sensitive data and networks. Students can develop models for real-time threat detection, anomaly detection, and security automation. AI-based threat detection and predictive network security models are fundamental in ensuring digital safety in an increasingly interconnected world.
5. **Education** – AI and data science are revolutionizing education by enabling personalized learning experiences, automated assessments, and student performance tracking. Proposals in this field can focus on making education more accessible, engaging, and effective. AI-driven personalized learning systems and educational analytics can bridge learning gaps and improve academic outcomes.
6. **Finance** – The finance sector benefits significantly from AI applications in fraud detection, algorithmic trading, and credit risk assessment. Students can develop predictive financial models, fraud detection systems, or AI-driven investment strategies. AI-powered fraud detection, risk analysis, and automated financial insights contribute to enhancing financial security and decision-making.
7. **Energy** – AI is key in managing energy consumption, optimizing renewable energy sources, and predicting system failures. Students can contribute to developing smarter energy solutions for sustainable power distribution and efficiency. AI-enabled energy optimization and predictive maintenance in power grids play a crucial role in achieving energy sustainability goals.
8. **Robotics** – Robotics and AI are revolutionizing industries by automating processes, reducing costs, and increasing efficiency. Projects in this category can focus on developing intelligent robotics systems, AI-powered automation, or smart industrial applications. AI-integrated automation in manufacturing and autonomous systems offers students the chance to contribute to next-generation robotic innovations.

## Competition Procedure:

To ensure a fair and rigorous evaluation process, the competition follows a structured two-phase approach.

The competition consists of two phases:

1. **Phase 1: Project Proposal**
2. **Phase 2: Final Project Demonstration**

### Phase 1: Project Proposal

- Teams must submit a detailed project proposal outlining their project idea, problem statement, significance of the project, methodology, and expected outcomes.
- Proposals will be reviewed and categorized as Accepted, or Rejected.
- Only accepted proposals will move on to the next phase.

## Phase 2: Final Project Demonstration

- Selected teams will develop and implement their proposed projects.
- Teams will prepare poster, presentation and a five-minute video.
- Teams will present their projects to a panel of faculty judges.
- Projects will be evaluated based on:
  - The technical depth and feasibility of the demonstration.
  - Creativity and problem-solving approach.
  - Effectiveness in addressing the identified problem.

## Target Audience for the IRADA Intra-University Innovation Challenge

- The competition is designed exclusively for **undergraduate students at Emirates Aviation University** who are keen on exploring Data Science, Artificial Intelligence, and Robotics. The competition provides a structured learning experience that fosters creativity, problem-solving, and hands-on technical application. It aims to prepare students for future research endeavours, industry roles, and leadership in AI-driven domains.

## Eligibility and Participation Requirements

The following conditions and requirements apply to the EAU Intercollege Innovation Quest:

- The competition is open to all undergraduate students at Emirates Aviation University (EAU).
- Each team may consist of up to two members.
- An individual participant may be involved in a maximum of two projects.
- A team (with the same members) is allowed to submit only one project.
- Students are encouraged to participate in both phases of the competition; however, participation in Phase 2 will be based on selection by the jury following the evaluation of submitted proposals in Phase 1.

## Deliverables Expected from Participants

To successfully participate, students are required to commit to both phases of the completion.

### For Phase 1(Registration):

- Students are required to [register](#) through Microsoft form(Click on register/Scan QR Code above )and submit a project proposal of in prescribed format with relevant details. Only the accepted teams will move towards the phase 2.

### For Phase 2 (Final Competition):

- **Poster:** Teams must design and present a poster, explaining their project, highlighting key aspects such as the problem statement, AI/Robotics/Data Science methodologies, and the potential impact of their solution.
- **Demonstrate Project:** Teams must showcase a hardware prototype, software application, or a simulation-based proof of concept during evaluation to demonstrate their project's technical feasibility and functionality.

- **Project Summary Write-Up:** Each team must submit a concise, well-structured project report (maximum four pages) summarizing the following:
  - Abstract – A brief overview of the project's purpose, goals, and impact.
  - Methodology – The tools, technologies, and processes used, including relevant AI, Robotics, or Data Science methods.
  - Results – Outcomes or findings from project development or experimentation, including screenshots, prototype images, or data visuals.
- The teams must submit a **five-minute** video of their poster/project presentation.

## Awards and Prizes

- **Prizes** for top 3-performing teams.
- **All the shortlisted participants for Phase 2** will be provided with **targeted workshops and learning resources**.
- All students who will participate in Phase2 of the competition receive **certificates of participation**.

## FAQ

### Who are the Judges of the EAU Intercollege Innovation Quest?

- A panel of professors from the **Faculty of Mathematics and Data Science**, along with members from **other faculties at Emirates Aviation University**, will evaluate the submissions.
- The decisions made by the jury panel will be final and binding for the competition.

## Important Dates

Due Date	Stage
10 <sup>th</sup> April 2025	Competition Announcement
30 <sup>th</sup> April 2025	Proposal Submission
15 <sup>th</sup> May 2025	Announcement of shortlisted proposals
30 <sup>th</sup> September	Project Submission ( <b>Project Summary Write-Up Submission</b> )
2 <sup>nd</sup> October 2025	<b>*Final competition (Demonstration &amp; Poster presentation)</b>

\*A detailed schedule for the final competition (demonstration and poster presentation) will be shared later.

## Suggested guidelines for Final Project submission

The project presentation should include the following:

1. Title, Team Information and Contribution
2. Problem Statement
3. Objective
4. Methodology
5. Implementation
6. Results & Findings
7. Future work & Scalability