ANNUAL REPORT

2025

International Research Center of

Artificial Intelligence and the Internet of Things

Near East University

iot.neu.edu.tr

Director's Message

It is with great pride that we present the 2025 Annual Report of the International Research Center of Artificial Intelligence and the Internet of Things at Near East University.

This year has been one of significant achievement and growth. Our center has continued to push the boundaries of interdisciplinary research, delivering impactful projects, engaging the academic community through our innovative Academic Thursdays with Dux series, and producing an impressive volume of research output that demonstrates our commitment to excellence.

From the completion of groundbreaking projects such as the Smart Beehive System and Skin Disease Detection Models, to the continued development of transformative platforms like Prof Dux, MedScribe AI, and the Dux Human Robot, our team has shown remarkable dedication, creativity, and collaborative spirit. Our interdisciplinary reach, spanning medicine, biology, engineering, and the arts, reflects our conviction that the most meaningful innovations emerge at the intersection of disciplines.

As we look ahead, we remain committed to nurturing the next generation of researchers, expanding our national and international partnerships, and contributing to the technological and societal advancement of our region and beyond.

Prof. Dr. Fadi Alturjman

Center Director

International Research Center of AI and IoT

Near East University

About the Center

History and Background

The International Research Center of Artificial Intelligence and the Internet of Things (AI & IoT) was established in 2023 under the umbrella of Near East University, one of the leading research universities in the region. Founded in response to the growing global demand for interdisciplinary research in smart technologies, the center was created to bridge academic excellence with real-world technological impact.

Since its inception, the center has grown into an active hub for collaborative research, spanning disciplines such as medicine, biology, engineering, and the arts, reflecting NEU's commitment to innovation-driven, socially relevant science.

Mission

To lead interdisciplinary, high-impact research and innovation in Artificial Intelligence and the Internet of Things, empowering society through smart systems, academic excellence, and ethical practice.

Vision

To become a regional and global leader in AI and IoT research, contributing to sustainable technological advancement through collaboration, innovation, and socially relevant research.

Core Policies

- Research Ethics: All research must comply with NEU's ethics and data protection regulations.
- Innovation-Driven Focus: Research projects must respond to current technological and social needs.
- Collaboration First: National and international collaborations are encouraged to maximize reach and application.
- Transparency & Continuous Improvement: Internal evaluations, annual reporting, and stakeholder feedback inform strategy and accountability.

2025 At a Glance

452	10	5	8
Publications	Projects Completed	Ongoing Projects	Events Held

Research Outputs

The International Research Center of AI and IoT has demonstrated a strong and growing research output since its establishment. Our researchers actively contribute to the global academic community through peer-reviewed journal articles, conference papers, and interdisciplinary studies spanning artificial intelligence, IoT systems, and their applications across medicine, biology, engineering, and the arts.

Publications Overview

Year	Number of Publications
2024	455 published research outputs
2025	452 published research outputs
2026 (to date)	40 published research outputs and ongoing

For a full and up-to-date list of all publications, please visit our official research portal on NEU Hub at iot.neu.edu.tr.

Patents

The center actively pursues intellectual property protection for novel innovations developed through its research activities. Patent details are available upon request and through the NEU intellectual property office.

Projects

Our research initiatives are driven by real-world challenges and emerging technological needs. In 2025, the center successfully completed ten projects while maintaining active development on five ongoing initiatives.

Ongoing Projects

Project	Description
Prof Dux Platform	An AI-powered academic platform under active development and continuous improvement.
MedScribe AI	An intelligent medical transcription and documentation system for healthcare applications.
Dux Human Robot	A humanoid robotics project integrating AI and IoT technologies, currently in active development.
NEU Callbot	An AI-driven conversational assistant for NEU's communication and student services.
NEU Hub	NEU's centralized academic research and information portal, under ongoing development.

Completed Projects (2025)

Project	Start	End	Description
Smart Beehive System	Late 2024	2025	IoT-based smart monitoring system for real-time beehive condition tracking.
Project Management Platform	Late 2024	2025	Custom platform for managing research projects, tasks, and team activities.
Hologram	Late 2024	2025	Holographic display and interaction system using cutting-edge visualization technologies.
Transcript Analyzer	Late 2024	2025	AI-powered tool for automated analysis and processing of academic transcripts.
SIS	Late 2024	2025	Student Information System for streamlined academic data management.
Dux Art	Late 2024	2025	AI-driven creative platform exploring the intersection of AI and digital arts.
Vector Models	Late 2024	2025	Advanced vector-based AI models for data representation and intelligent processing.

BDS Grade Curving System	Late 2024	2025	Automated grade curving and analysis system for fair academic assessment.
Smart Glasses	Late 2024	2025	IoT-enabled smart glasses for augmented reality and assisted living applications.
Skin Disease Detection Models	Late 2024	2025	AI-powered image recognition models for early detection and classification of skin diseases.

Events

The center organized a rich program of academic, technical, and community events throughout 2025, reaching hundreds of participants across national and interdisciplinary audiences. All recorded events are available on our official YouTube channel: AI Prof Dux.

Academic Thursdays with Dux — Scientific Event Series (2025)

The Academic Thursdays with Dux series became the center's flagship event program in 2025, bringing together researchers, students, and faculty for weekly knowledge-sharing sessions featuring the Prof Dux platform and Dux Robot and Hologram demonstrations.

Event	Field	Level	Participants
Academic Thursdays with Dux 1: Prof Dux Platform Introduction and Q&A Session	AI Platform Introduction	National	20
Academic Thursdays with Dux 2: Follow-up Lecture on AI Applications and Demonstrations	AI Platform Introduction	National	50
Academic Thursdays with Dux 3: Robotics Demo Focusing on DUX Robot Behavior	AI and Robotics	National	50
Academic Thursdays with Dux 4: Dux Robot Q&A on Systematic Review	AI and Systematic Review	National	60
Academic Thursdays with Dux 5: Computational Frameworks for Protein Structure Prediction	AI and Biology	National	60
Academic Thursdays with Dux 6: Dux Hologram on NEU and Times Rankings	AI	National	70
Academic Thursdays with Dux 7: Dux Robot Q&A on AI and Art	AI and Art	National	50
Academic Thursdays with Dux 8: Dux Hologram on AI and Mechatronics	AI and Mechatronics	National	60

Training and Workshops

Inaugural Academic Thursdays with Dux Workshop (2025)

The first session of the Academic Thursdays with Dux series served as an introductory workshop for the Prof Dux Platform, providing participants with a hands-on introduction to the platform's capabilities and applications in academic and research settings. This inaugural session marked the beginning of a recurring knowledge-sharing initiative continued throughout 2025.

Community Service

End-of-Year Gathering — Christmas and New Year Celebration (2025)

The center organized a festive end-of-year gathering bringing together members of the International Research Center of AI and IoT and the Faculty of AI and Informatics. This event fostered community spirit, strengthened interdepartmental relationships, and promoted a collaborative and inclusive culture within the university.

Research Groups & Team Structure

The center is organized around a collaborative, interdisciplinary team structure where members actively contribute across multiple domains and projects collectively, rather than in isolation.

Core Research and Development Groups

Artificial Intelligence Group

Focuses on machine learning, deep learning, computer vision, and AI-driven data analysis. Members develop intelligent systems and algorithms applicable across healthcare, agriculture, and smart infrastructure.

Internet of Things (IoT) Group

Specializes in the design, development, and deployment of connected device systems, sensor networks, embedded systems, and IoT infrastructure solutions.

Software & Web Development Group

Supports research activities through the development of platforms, tools, dashboards, and web-based applications serving both internal research needs and external project deliverables.

Student Internship Program

The center is committed to nurturing the next generation of researchers and technology professionals. Students who wish to gain hands-on experience in real-world AI and IoT projects are welcome to apply to participate as interns. Through this program, students work alongside experienced researchers and developers, contributing meaningfully to ongoing projects while building practical skills for their future careers.

Partnerships and Collaborations

Collaboration is central to our mission. The center actively partners with faculties, departments, and external organizations at national and international levels to drive shared innovation and real-world impact.

Interdisciplinary Collaborations

A defining strength of the center in 2025 has been its active interdisciplinary collaboration across NEU's faculties and departments. The center has partnered with units including:

- Near East Hospital — AI-assisted medical imaging and MedScribe AI development
- Faculty of Biology — Computational frameworks for protein structure prediction
- Faculty of Arts — AI and digital arts through the Dux Art platform
- Faculty of Engineering — IoT infrastructure, robotics, and smart systems
- Faculty of AI and Informatics — Joint events, research, and community activities

National Collaborations

The center maintains active collaborations with national academic and industry partners, with further partnerships under development. Details of formal agreements are available through the center's administrative office.

International Collaborations

The center is actively pursuing international research partnerships and collaborative projects. Further international collaborations are planned for the 2026 academic year.

Quality Assurance and Governance

Governance Structure

The center operates under the institutional framework and regulations of Near East University. Strategic and operational decisions are made through the Center Management Board, which convenes regularly to review progress, set priorities, and ensure alignment with the center's mission and vision.

Meeting Culture

The center maintains a structured meeting culture to ensure effective communication and collaborative decision-making:

- Weekly Center Meetings: The full team meets weekly with the Center Director to discuss ongoing activities, share updates, and address operational matters.
- Project-Specific Meetings: Dedicated meetings are organized as needed for specific projects, involving only relevant team members to ensure focused and efficient discussion.
- All meeting records are systematically documented and maintained through the center's internal management platform (Punica).

Information Management

The center utilizes the Punica platform as its primary information management system for task assignment, decision tracking, progress monitoring, and team performance management. This ensures all activities are transparently recorded and regularly reviewed, enabling data-driven decisions to improve overall center performance.

Internal Quality Assurance

The center follows Near East University's institutional quality assurance framework, participating in annual internal evaluations and reporting cycles. All research activities are conducted in compliance with NEU's research ethics guidelines, data protection regulations, and academic integrity policies.

Looking Ahead — 2026

Building on the achievements of 2025, the International Research Center of AI and IoT enters 2026 with strong momentum and ambitious goals:

- Continue and expand the Academic Thursdays with Dux series with new interdisciplinary themes and increased participation.
- Launch the Dux Art Platform Demonstration and other new public-facing events.
- Advance ongoing projects including the Dux Human Robot, MedScribe AI, NEU Callbot, and NEU Hub toward full deployment.
- Expand international research collaborations and joint publications.
- Grow the student internship program to involve more students in hands-on research.
- Continue producing high-quality research outputs targeting 400+ publications for 2026.
- Develop and publish the center's first formal strategic plan and quality improvement roadmap.

The center remains committed to its mission of leading interdisciplinary, high-impact research in AI and IoT, and to its vision of becoming a regional and global leader in these transformative fields.

International Research Center of AI and IoT
Near East University | iot.neu.edu.tr
Annual Report 2025