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OFFICIAL GROUP DOCUMENT

Intelligent Computing Research Group

From Ideas to Impact (ICResG)

Transforming collaborative research into meaningful innovation.

www.icresg.org

A collaborative research community for intelligent computing

Est. 2026

O V E R V I E W

At a Glance



The Intelligent Computing Research Group (ICResG) is a collaborative research community that brings together students, graduates, academics, researchers and industry professionals to advance Artificial Intelligence, Machine Learning, Data Science and intelligent computing and to carry promising ideas beyond the dissertation, into publications, software, datasets and real-world innovation.

Open membership irrespective of institution or location | **Contribution-based authorship** recognition is earned, never automatic

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01 Background

The rapid advancement of Artificial Intelligence (AI), Machine Learning (ML), Data Science and intelligent computing technologies is transforming industries, healthcare, education, agriculture, transportation, governance and other critical sectors of society. These emerging technologies provide significant opportunities for addressing complex challenges through data-driven solutions, automation and intelligent decision-making systems.

However, despite the growing number of undergraduate and postgraduate research projects produced annually, many innovative ideas fail to progress beyond dissertations, academic reports or personal storage devices. Promising research concepts often remain undeveloped due to limited access to mentorship, inadequate collaboration opportunities, insufficient technical support and limited exposure to research publication and innovation processes.

The Intelligent Computing Research Group (ICRESG) is established to address this gap by creating a collaborative research community where students, graduates, academics, researchers and industry professionals work together to transform ideas into impactful research outcomes, technological innovations and practical solutions.



Figure 1 The ICRESG research ecosystem — a single collaborative community connecting six stakeholder groups around shared projects, mentorship and outputs.

ICRESG is founded on the principle that meaningful research is achieved through collaboration, continuous learning, knowledge sharing and collective problem-solving. The group recognises that research excellence is not built around individual expertise

alone, but through the combined contributions, experiences and perspectives of diverse researchers working toward common goals.

A contribution-driven culture. ICRESG does not operate as a platform for automatic authorship or publication inclusion. Every publication, software solution, dataset, prototype or research output reflects the genuine intellectual and technical contributions of participating members. Membership is an opportunity to learn, collaborate and grow while actively contributing to research activities.

ICRESG welcomes individuals from diverse academic and professional backgrounds who have a genuine interest in advancing Computer Science and related fields, regardless of geographical location or institutional affiliation.

02 Aim

The aim of the Intelligent Computing Research Group is to build a collaborative research community dedicated to advancing intelligent computing through high-quality research, innovation, mentorship and practical problem-solving — while developing competent and ethical researchers capable of contributing to global technological advancement.

03 Vision

To become a globally recognised collaborative research community that advances intelligent computing through innovative research, interdisciplinary collaboration, knowledge sharing and the development of practical solutions that address real-world challenges.

ICRESG seeks to nurture a new generation of researchers who can contribute meaningfully to scientific advancement, technological innovation and societal development through ethical, impactful and high-quality research.

04 Mission

The Intelligent Computing Research Group is committed to:

- **Promoting** collaborative and ethical research in Computer Science and intelligent computing.

- **Transforming** innovative ideas into high-quality publications, software solutions, datasets and technological innovations.
- **Developing** research capacity among students, graduates and early-career researchers through mentorship, peer learning and practical research experience.
- **Encouraging** interdisciplinary collaboration among academia, industry, government and other stakeholders.
- **Supporting** members in developing expertise across Artificial Intelligence, Machine Learning, Data Science, Software Engineering, Cybersecurity, Computer Vision, Intelligent Systems and other emerging computing fields.
- **Fostering** a culture of continuous learning, innovation, accountability, academic integrity and research excellence.

05 Core Philosophy

The Intelligent Computing Research Group is guided by a single principle:

“Research is not about knowing everything; it is about learning together, asking better questions, and working collectively to discover meaningful solutions.”

— the ICRESG founding principle

ICRESG believes that every researcher has valuable contributions to make, regardless of academic level or professional experience. The group encourages members to learn through practical research activities, collaborate across disciplines and develop the skills required to contribute meaningfully to the global research community.

06 Objectives

The objectives of the Intelligent Computing Research Group are to:

1. **Conduct high-quality research** in Artificial Intelligence, Machine Learning, Data Science and related computing disciplines that contributes to scientific knowledge and practical innovation.
2. **Build research capacity** among students, graduates and early-career researchers through mentorship, collaborative learning, technical training and hands-on research experience.
3. **Transform ideas into impactful outputs** including peer-reviewed publications, software solutions, datasets, prototypes and other research-driven innovations.

4. **Promote interdisciplinary collaboration** by connecting researchers, academics, industry professionals and other stakeholders to address real-world problems through intelligent computing solutions.
5. **Foster ethical and sustainable research practices** by promoting academic integrity, contribution-based recognition, open knowledge sharing and a culture of continuous learning and excellence.



Figure 2 From Ideas to Impact — the five-stage journey through which member ideas mature into research outputs.

The journey in Figure 2 shapes how ICRESG organises its day-to-day work. Within research teams, that journey follows a disciplined, iterative workflow:

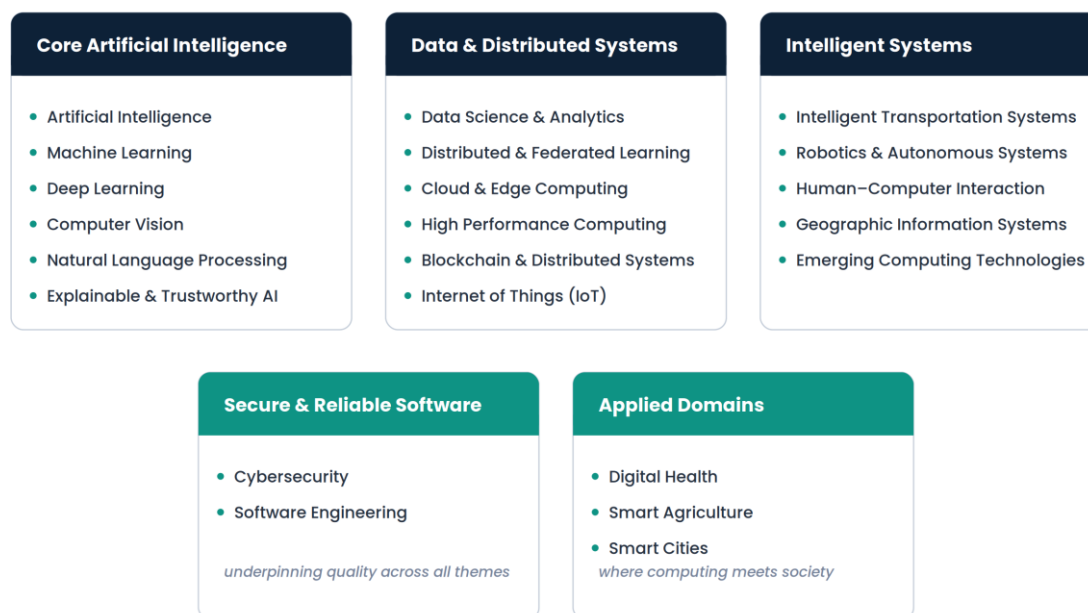


The workflow is iterative — evaluation and dissemination routinely open the next cycle of enquiry.

Figure 3 The ICRESG research workflow — six phases from problem identification to dissemination, with evaluation feeding new questions back into the cycle.

07 Research Areas

ICRESG supports research activities across a wide range of computing disciplines. For clarity, the group's twenty-one areas of interest are organised into five complementary themes from foundational AI research to the applied domains where intelligent computing meets society.



Themes are deliberately open — projects frequently span two or more areas, and new directions are welcomed.

Figure 4 Thematic research areas of ICRESG. Twenty-one disciplines organised into five complementary themes.

These themes are deliberately open rather than exclusive: projects frequently span two or more areas, and members are encouraged to propose emerging directions beyond those listed.

08 Membership Philosophy

ICRESG is an inclusive research community for individuals who demonstrate genuine interest and commitment to research and innovation.

Membership is open to	Members are expected to have
▪ HND graduates ▪ Bachelor's degree holders ▪ Postgraduate students ▪ Academic staff ▪ Researchers ▪ Industry professionals ▪ Individuals with a demonstrated interest in computing research	▪ A personal laptop suitable for research activities ▪ Reliable internet access for research collaboration ▪ Commitment to continuous learning and personal development ▪ Willingness to actively contribute to research activities

- Respect for teamwork, deadlines and ethical research practices

Contribution over credentials. Academic qualifications alone do not determine a member's value within ICRESG. Contributions, commitment and willingness to learn remain the foundation of participation.

09 Research Culture

ICRESG promotes a research culture built on eight commitments that shape how members work, learn and are recognised:

Collaboration
over competition

Practical learning
through real research

Merit-based recognition
credit that is earned

Academic integrity
in every output

Accountability
and responsibility

Open communication
and knowledge sharing

Continuous improvement
as a habit

Excellence
in research

This culture is realised through the group's structure. Members bring diverse skills into focused research teams; teams carry defined projects; and projects deliver the group's outputs: publications, software, datasets and innovations.

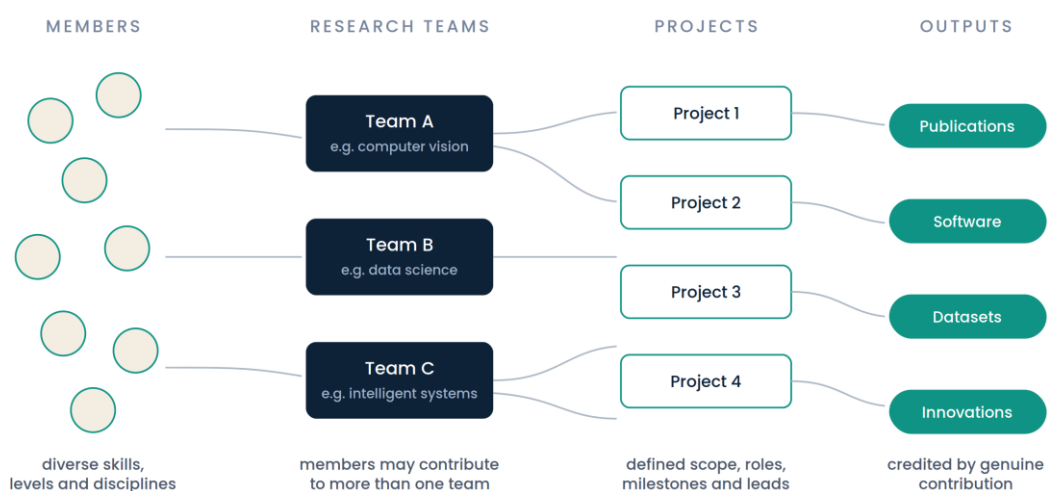


Figure 5 How ICRESG organises collaboration. Members contribute skills to research teams, teams deliver projects, and projects produce credited outputs.

10 Authorship and Contribution Policy

ICRESG follows a contribution-based authorship model. Membership in the research group does not automatically guarantee authorship of publications or research outputs; authorship is earned through meaningful intellectual and technical contributions.

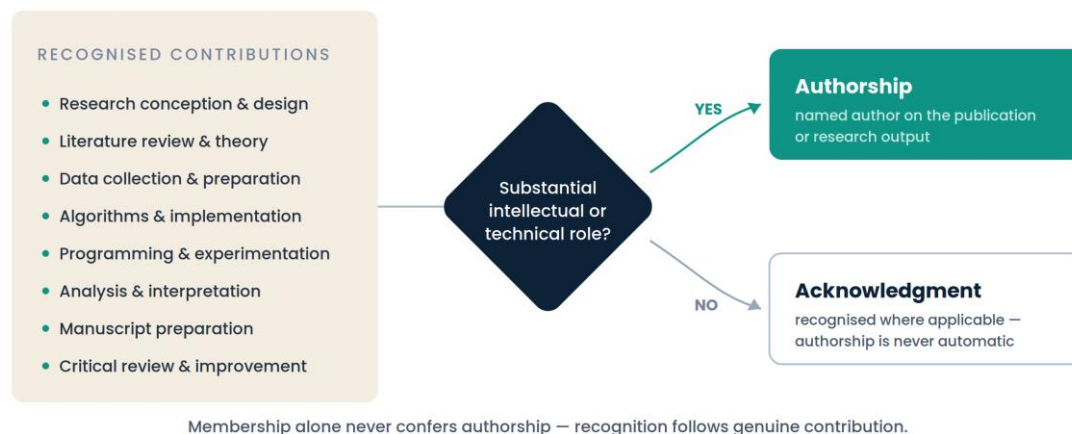


Figure 6 The contribution-based authorship model — recognised forms of contribution, and the distinction between authorship and acknowledgment.

Individuals who do not make substantial contributions will not be included as authors but may receive appropriate acknowledgment where applicable. This approach ensures fairness, transparency, accountability and academic integrity across all ICRESG research activities.

11 Expected Outputs

Through its projects and teams, ICRESG aims to produce a balanced portfolio of scholarly and practical outputs:

SCHOLARLY ▪ Peer-reviewed journal publications ▪ Conference papers ▪ Technical reports ▪ Collaborative research proposals	PRACTICAL ▪ Open-source software and research tools ▪ AI models and computational frameworks ▪ Research datasets ▪ Research prototypes
CAPACITY-BUILDING	SOCIETAL

- Workshops, seminars and training programmes

- Technology solutions addressing real-world challenges

12 Motto

From Ideas to Impact

transforming collaborative research into meaningful innovation

13 Conclusion

The Intelligent Computing Research Group represents a collaborative platform designed to transform innovative ideas into meaningful research contributions and practical technological solutions. By bringing together learners, researchers, academics and professionals, ICRESG seeks to create an environment where individuals can develop research skills, collaborate effectively and contribute to advancements in intelligent computing.

Through a culture of learning, integrity, collaboration and innovation, ICRESG aims to develop capable researchers and produce impactful research that contributes to both scientific knowledge and societal progress.