IEEE AgeTech Global Dataset Competition 2026

About the Competition

The IEEE AgeTech Global Dataset Competition 2026 is a global initiative designed to accelerate the development of high-quality datasets that can drive innovation in artificial intelligence (AI) for healthy longevity.

While advances in AI have transformed many sectors, progress in AgeTech remains constrained by the limited availability of openly accessible, well-documented, representative, and ethically governed datasets. The competition addresses this challenge by encouraging the creation and publication of datasets that support research, benchmarking, reproducibility, and real-world deployment of AI systems for ageing populations.

The competition is organized by IEEE AgeTech in collaboration with IEEE DataPort and IEEE Young Professionals, bringing together researchers, healthcare professionals, engineers, innovators, entrepreneurs, and students from around the world.

Participants are invited to contribute datasets that can support the next generation of AI-enabled solutions promoting healthy ageing, independence, accessibility, well-being, and quality of life through the official IEEE DataPort competition platform:

https://ieee-dataport.org/competitions/ieee-agetech-global-dataset-competition

Why This Competition Matters

The world's population is ageing at an unprecedented rate.

According to international demographic projections, the number of people aged 65 years and older will continue to grow significantly over the coming decades. This demographic transition creates both opportunities and challenges across healthcare systems, social care, transportation, housing, accessibility, and workforce participation.

AI has the potential to improve many aspects of healthy longevity, including:

- Early disease detection
- Remote health monitoring
- Independent living support
- Fall prevention
- Personalized healthcare
- Cognitive health assessment
- Assistive robotics
- Smart home technologies
- Caregiver support systems

However, progress in these areas depends heavily on the availability of high-quality datasets.

This competition seeks to address this gap by promoting open, reproducible, and ethically responsible dataset development.

Competition Themes

Participants are invited to submit datasets in the following thematic areas:

1. Health & Well-Being

- Wearable health monitoring systems
- Vital signs and physiological sensing
- Chronic disease management
- Preventive healthcare and wellness
- Physical activity and lifestyle monitoring
- Mental health and emotional well-being

2. Independent Living & Smart Environments

- Smart home and ambient assisted living systems
- Daily activity recognition
- Fall detection and safety monitoring
- IoT-enabled ageing-in-place technologies
- Home automation for older adults

3. Mobility & Assistive Technologies

- Human movement and gait analysis
- Rehabilitation and recovery monitoring
- Wearable robotics and exoskeleton systems
- Assistive devices and technologies
- Human-machine interaction for mobility support

4. Care & Support Systems

- Digital caregiving platforms
- Clinical and home-care decision support systems
- Care coordination and service delivery
- Human-in-the-loop AI systems
- Healthcare workflow optimization

5. Cognitive Health & Digital Inclusion

- Cognitive assessment and monitoring

- Dementia and Alzheimer's disease support
- Speech, language, and behavioural analytics
- Accessibility technologies
- Digital literacy and technology adoption among older adults

6. Open Innovation Track

- Novel and interdisciplinary AgeTech datasets
- Emerging technologies for healthy longevity
- Robotics, IoT, sensing, and AI-enabled ageing solutions
- Any dataset relevant to AgeTech that does not fall within the above categories

Submission Requirements

Eligibility

The competition is open worldwide to:

- Students
- Young Professionals
- Academic Researchers
- Industry Practitioners

Participation may be individual or team-based.

Team Requirements

- Maximum of four (4) members per team
- One submission per team
- No restrictions on institutional affiliation
- Each participant may only belong to one team

Submission Process

All submissions must be completed through IEEE DataPort:

https://ieee-dataport.org/competitions/ieee-agetech-global-dataset-competition

Each submission consists of two mandatory components:

Part 1. Dataset Submission

Participants must upload their dataset to IEEE DataPort.

The dataset package should include:

- Dataset files
- Metadata
- Data dictionary
- Labels or annotations (if applicable)
- Collection protocols
- Ethical compliance information
- Licensing information

Accepted formats may include:

- CSV
- JSON
- HDF5
- MAT
- NPZ
- SQL
- SQLite
- Image archives
- Time-series formats

Part 2. Dataset Report

Participants must submit a report describing the dataset.

The report should be submitted as:

- Microsoft Word (.docx) or PDF (.pdf)
- Maximum 10 pages (excluding references and appendices)
- Single-column format
- Times New Roman 11 pt
- 1.15 line spacing

Recommended report structure:

Title Page

- Dataset Title
- Authors
- Affiliations
- Contact Information

1. Abstract

Brief overview of the dataset.

2. Motivation

Why was the dataset created?

3. Data Collection

- Data sources
- Devices
- Sensors
- Recruitment procedures
- Collection methodology

4. Dataset Characteristics

- Number of samples
- Number of participants
- Features
- Labels
- File formats

5. Data Quality

- Missing data handling
- Validation procedures
- Quality assurance

6. Ethical Considerations

- Privacy protection
- Consent procedures
- Anonymization
- Regulatory compliance

7. Potential Applications

Possible AI and AgeTech use cases.

8. Accessibility and Reproducibility

Instructions for reuse and replication.

9. References

Appendix (Optional)

Data dictionary, supplementary figures, code examples, etc.

Evaluation Criteria

All eligible submissions will be reviewed by an international expert evaluation panel based on the following criteria:

1. Problem Relevance & Real-World Impact (20%)

This criterion evaluates the significance of the problem addressed by the dataset and its potential contribution to healthy longevity and AgeTech innovation. Reviewers will assess whether the dataset addresses meaningful challenges faced by older adults, caregivers, healthcare providers, or society, and whether it can support the development of practical solutions with measurable real-world impact.

2. Dataset Quality, Diversity & Representativeness (25%)

Reviewers will evaluate the overall quality of the dataset, including data completeness, consistency, reliability, and adequacy for AI development. Consideration will also be given to dataset diversity, representativeness of target populations, sample size, class balance, data quality control procedures, and the extent to which the dataset minimizes bias and supports generalizable AI solutions.

3. Documentation & Reproducibility (15%)

This criterion assesses the clarity and completeness of the accompanying documentation. Submissions should provide sufficient metadata, data dictionaries, collection protocols, labeling procedures, and usage instructions to enable other researchers to understand, reproduce, and reuse the dataset effectively. Well-organized and transparent documentation will receive higher scores.

4. Ethical Compliance & Data Governance (15%)

Datasets must demonstrate adherence to responsible data practices. Reviewers will examine privacy protection measures, anonymization procedures, informed consent processes (where applicable), regulatory compliance, bias awareness, and ethical considerations related to data collection, storage, sharing, and reuse. Strong governance frameworks and transparent ethical practices are highly encouraged.

5. Accessibility & Usability (10%)

This criterion evaluates how easily the dataset can be accessed, understood, and integrated into research workflows. Factors include the use of standardized formats, interoperability, metadata quality, ease of navigation, data organization, and suitability for use by diverse research communities. Datasets designed with usability and accessibility in mind will be scored more favorably.

6. AI Readiness & Benchmarking Potential (15%)

Reviewers will assess the dataset's suitability for training, validating, and benchmarking AI, multi-omics, machine learning and foundation models. Consideration will be given to data structure, labeling quality, annotation completeness, feature richness, and potential use for

developing reproducible AI benchmarks. Optional baseline experiments, reference implementations, or example use cases may further strengthen submissions.

Awards

Rank	Prize
1st Place	USD 3,000
2nd Place	USD 2,000
3rd Place	USD 1,000

In addition to monetary prizes, winning teams will receive:

- IEEE Certificate of Achievement
- Recognition through IEEE AgeTech and IEEE DataPort
- Visibility across IEEE communication channels

Awards will be granted only if submissions meet the quality standards established by the evaluation committee.

Key Dates (GMT+0)

- Competition Launch: June 2026
- Submission Deadline: September 30, 2026
- Administrative Screening: October 2026
- Technical Evaluation: October - November 2026
- Online Demo & Presentation Session (if required): November 2026 (TBD)
- Winners Announcement: December 2026 (TBD)

All dates are tentative and subject to change. Any updates will be communicated through the official competition website and IEEE DataPort.

Contact

For competition updates, templates, FAQs, webinars, and additional resources, please regularly visit the official competition website.

Questions may also be directed to the IEEE AgeTech Competition Organizing Committee through the contact information provided on this website.

For inquiries regarding the competition, please contact Polat Goktas, Competition Chair of the IEEE AgeTech Global Dataset Competition 2026, at: polatgoktas@ieee.org

Frequently Asked Questions

Do I need to build an AI model?

No.

The primary focus of the competition is the quality and usability of the dataset itself. Participants may optionally provide baseline AI experiments, but this is not required.

Do I need to release my source code?

No.

Code submissions are optional. The emphasis is on dataset quality and documentation.

Can I submit an existing dataset?

Yes, provided that:

- You own the rights to share the dataset;
- The dataset complies with IEEE DataPort policies;
- The dataset has not previously been submitted to any competition.

Can healthcare datasets be submitted?

Yes.

Healthcare datasets are strongly encouraged provided all ethical, privacy, anonymization, and regulatory requirements have been satisfied.

Can synthetic datasets be submitted?

Yes.

Synthetic datasets may be submitted if the generation methodology is clearly documented (and verified by experts) and the dataset has clear relevance to AgeTech applications.

Can industry participants participate?

Absolutely.

The competition welcomes participation from industry, startups, healthcare providers, NGOs, government organizations, and academic institutions.

Recommended Dataset Documentation

To maximize evaluation scores, participants are encouraged to provide:

- Dataset overview
- Collection methodology
- Sampling strategy
- Data dictionary
- Feature descriptions

- Label definitions
- Quality control procedures
- Ethical compliance statement
- Limitations
- Intended use cases
- Reproducibility guidance

Comprehensive documentation significantly improves dataset usability and long-term impact.

Community and Impact

The IEEE AgeTech Global Dataset Competition aims to establish a sustainable global community around AgeTech data sharing and responsible AI innovation.

Beyond identifying outstanding datasets, the competition seeks to encourage collaboration between academia, industry, healthcare organizations, policymakers, and technology developers. The resulting datasets will help accelerate research, benchmarking, and real-world deployment of AI solutions that support healthy longevity and improve the lives of older adults worldwide.