



WG(s): Plenary Lausanne, 23-25 January 2019

DOCUMENT

Source: FG-AI4H

Title: Updated draft thematic classification scheme

Purpose: Discussion

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Abstract: For the purpose of conducting full review of the documents, the following updated thematic classification scheme was adopted at the first FG-AI4H meeting and updated at the 3rd meeting (Lausanne, 23-25 January 2019). Subject matter experts might be consulted within the WG to ensure that the document has valid content and all the essential data needed. Contributions are invited to further improve the document.

Level-1 Thematic Classification**A. Public health (Level-1A)**

- 1.1. Health service
- 1.2. Health systems
- 1.3. Health expenditure
- 1.4. Health inequities
- 1.5. Health surveillance
- 1.6. Health emergencies
- 1.7. Life expectancy and mortality
- 1.8. Cause-specific mortality and morbidity
- 1.9. Communicable diseases
- 1.10. Non-communicable diseases
- 1.11. Civil registration and vital statistics
- 1.12. Other

Within the aforementioned Level-1A (Public Health) category, any one or more sub-class will be used:

1. epidemiology
2. microbiology
3. biostatistics
4. health services delivery
5. environmental health
6. community health
7. behavioural health
8. health economics
9. informatics

10. public health interventions
11. public policy
12. Other

B. Clinical Health (Level-1B)

- 1.1. Prevention
- 1.2. Diagnosis
- 1.3. Treatment
- 1.4. Research

Within the aforementioned Level-1B (Clinical Health) category, any one or more sub-class will be used:

1. Anaesthesiology
2. Angiology
3. Audiology
4. Cardiology
5. Critical care medicine
6. Dentistry
7. Dermatology
8. Emergency medicine
9. Endocrinology
10. Family medicine
11. Gastroenterology
12. General Practice
13. Geriatrics
14. Gynaecology
15. Haematology
16. Hepatology
17. Infectious disease
18. Kinesiology
19. Laboratory medicine
20. Neurology
21. Nephrology
22. Oncology
23. Ophthalmology
24. Orthopaedics
25. Otolaryngology
26. Pathology
27. Paediatrics
28. Pharmacology
29. Pulmonology
30. Psychiatry (mental disorders)
31. Radiology (medical imaging).
32. Rheumatology
33. Splanchnology
34. Surgery
35. Urology
36. Veterinary medicine (nonhuman/animals)
37. Other

Level-2 Thematic Classification (Artificial Intelligence)

AI-benchmarking class type

1. Machine Learning

- 1.1. Classification
- 1.2. Regression
- 1.3. Clustering
- 1.4. Recommendation systems
- 1.5. Matching
- 1.6. Sequential data models
- 1.7. Anomaly detection

2. Optimization

- 2.1. Automated planning & scheduling
- 2.2. Evolutionary algorithms

3. Knowledge representation and reasoning

- 3.1. Default reasoning
- 3.2. Common-sense knowledge
- 3.3. Ontological engineering
- 3.4. Sub-symbolic reasoning

4. Artificial Intelligence

- 4.1. Generative models
- 4.2. Autonomous systems
- 4.3. Distributed systems

5. Perception

- 5.1. Visual recognition (photo/video)
- 5.2. Natural Language Processing (text/voice)

6. Affective computing

- 6.1. Sentiment analysis
- 6.2. Virtual assistants
- 6.3. Social agents

7. Motion and manipulation (robotics)

- 7.1. Robotic arms
- 7.2. Industrial robots
- 7.3. Motion planning

8. General intelligence

Level-3 Thematic Classification (nature of data types)

- 3.1. Anonymized Electronic Health Record data
- 3.2. Medical Images, photographs
- 3.3. Non-medical data (socio economic, environmental, etc)
- 3.4. Vital sign signals
- 3.5. Lab test result
- 3.6. Questionnaire responses

Level-4 Thematic Classification (origin of the data)

- 4.1 PACS
- 4.2 EHR
- 4.3 PHR
- 4.4 LIS
- 4.5 Web Portal
- 4.6 mHealth App
- 4.7 Medical Device

Level-5 Thematic Classification (data collectors)

- 5.1 Service provider (technologist or doctor)
 - 5.2 Patient (or proxy person)
 - 5.3 Machine-generated
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