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Abbreviations

ACT-R	Adaptive Control of Thought—Rational
ANN	Artificial Neural Network
ASR	Attention Success Rate
AUC	Area Under the Curve
BD	Blink Duration
BI	Blink Interval
BLE	Bluetooth Low Energy
CHEP	Conditional Human Error Probability
CREAM	Cognitive Reliability and Error Analysis Method
ECG	Electrocardiogram
EDA	Electrodermal Activity
EEG	Electroencephalography
EMG	Electromyography
EOG	Electrooculogram
fMRI	Functional Magnetic Resonance Imaging
fNIRS	Functional Near-Infrared Spectroscopy
HCI	Human Computer Interaction
HCI	Human-Computer Interaction
HEMM	Heavy Earth Moving Machinery
HEP	Human Error Probabilities
HP	Human Performance
HR	Human Reliability

HRA	Human Reliability Analysis
kNN	k-nearest neighbours
MSR	Memory Success Rate
PET	Positron Emission Tomography
ROC	Receiver Operating Characteristic Curve
SVM	Support Vector Machine
THERP	The Technique for Human Error-Rate Prediction

Glossary

Term	Definition
Affective	The sensation of feeling, emotion or mood is called affective. Affective conditions are impressions that link mental and physical processes.
Attention	It is the process by which organisms pick a subset of available information on which to focus for improved interpretation and incorporation of knowledge.
Behavioural science	The cognitive processes of creatures and the behavioural interactions between species in the natural environment are investigated by behavioural sciences. It entails using naturalistic observation, controlled scientific testing and mathematical modelling to analyse and investigate human behaviour.
Cognition	The mental action or process of learning and understanding through thinking, experience and senses is called cognition. The cognitive processes use existing knowledge and generate new knowledge.
Consciousness	It is the capacity for integrating the perceived differential information towards one task goal. The subconscious is not currently in focal awareness and is taught as “operating or existing outside of consciousness”.
Engineering (Human-factors engineering, Reliability engineering)	Human-factors engineering (also known as ergonomics) is the discipline of using psychological and physical qualities to design products and systems for human usage. Reliability describes a system or component’s ability to function under stated conditions for a specified period without failure.
Fatigue	A state of exhaustion, low energy and an intense desire to sleep prevents you from doing your everyday tasks. Mental fatigue is a temporary reduction in maximum cognitive capacity caused by lengthy periods of mental exertion.
Human reliability analysis (HRA)	Human reliability is the likelihood that an individual performs a task satisfactorily. HRA applies several methods to identify and predict human error in certain task conditions, impacting system safety. It then assesses latent risks of errors, identifies error causes and minimises error rate using error reduction strategies.
Long-term memory	It refers to a system that has a huge storage capacity which holds information over a long period in a relatively more

	stable form. Long-term memory retrieval is primarily subconscious.
Neuroscience	It is the study of the structure and function of the human brain and nervous system using cellular and molecular biology, anatomy and physiology, human behaviour and cognition and other disciplines to map the brain mechanistically. Neuroergonomics is a branch of neuroscience and ergonomics that aims to improve our knowledge of the brain activities that underpin the human execution of complex, real-world tasks as well as to develop technology and work settings that are safer and more efficient.
Perception	The use of prior knowledge to acquire and evaluate sensory input is known as perception. This process dynamically organises and analyses sensory data to characterise and understand the existing environment.
Physiology	The science of life is physiology. It is a discipline of biology concerned with understanding the mechanics of living things, ranging from cell activity at the ionic and molecular level to the complete body's integrated behaviour and the impact of the external environment.
Psychology (Cognitive psychology, Engineering psychology and Experimental psychology)	The scientific study of the mind and behaviour is known as psychology. Psychology's four primary aims are to describe, explain, predict and influence the behaviour and mental processes of others.
Situation Awareness (SA)	It is the ability to see environmental components and events in time and space, understand their significance and project their future.
Working Memory	It is a limited-capacity portion of the human memory system. It defines how perceived information is actively maintained, processed, manipulated, organised and retrieved. It is essential for reasoning and the guidance of decision-making and behaviour. This concept is mainly helpful in finding individual differences in cognition.
Workload and stress	The quantity of work an individual has to accomplish is called his/her workload. Stress is a sensation of bodily or mental strain. It can be triggered by any incident or idea that causes frustration, anger or anxiety. The body's response to a challenge or demand is called stress. Increased motivation and the mobilisation of extra cognitive resources were presumably driven by stress, reducing its adverse effects on task performance (effectiveness). Nonetheless, these compensatory attempts depleted resources, resulting in a reduction in cognitive efficiency.