Professional Certificate in Applied Neuroscience for Coaching

Neuroscience of Decision Making and Problem Solving

Ablation refers to the removal or destruction of a part of the brain, which can be used to study the function of that area, in the context of neuroscience research on decision making and problem solving.
Action Potential is the electrical impulse that travels along the length of a neuron, allowing it to transmit information, which is a fundamental concept in neurophysiology.
Adaptive Control is the ability of the brain to adjust its behavior based on experience and learning, which is crucial for effective decision making and problem solving.
Affect refers to the emotional state of an individual, which can influence their decision making and behavior.
Amygdala is a region in the temporal lobe involved in processing emotions, such as fear and anxiety, which plays a key role in emotional decision making.
Anchoring Bias is a cognitive bias that occurs when an individual relies too heavily on the first piece of information they receive, which can lead to suboptimal decision making.
Anterior Cingulate Cortex is a region in the frontal lobe involved in error detection, conflict monitoring, and motivation, which is essential for executive function and decision making.
Artificial Neural Networks are computational models inspired by the structure and function of the brain, which can be used to simulate neural processing and decision making.
Asymmetric Loss Function is a mathematical function that describes the unequal weighting of gains and losses in decision making, which can lead to risk aversion and loss aversion.
Attention is the cognitive process of selectively focusing on certain stimuli or tasks, which is crucial for effective information processing and decision making.
Availability Heuristic is a cognitive bias that occurs when an individual overestimates the importance of information that is readily available, which can lead to biases in decision making.
Basal Ganglia are a group of structures involved in movement control, habit formation, and reward-based learning, which play a key role in motor control and decision making.
Bayesian Decision Theory is a mathematical framework for making decisions under uncertainty, which can be used to model rational decision making.
Behavioral Economics is an interdisciplinary field that combines insights from psychology and economics to understand human decision making and behavior.
Brain-Derived Neurotrophic Factor is a protein involved in the growth and maintenance of neurons, which is essential for neural plasticity and learning.
Case-Based Reasoning is a method of decision making that involves using past experiences and cases to inform current decisions, which can be used to support intuitive decision making.
Causal Reasoning is the ability to understand cause-and-effect relationships, which is crucial for effective problem solving and decision making.
Cerebellum is a region at the base of the brain involved in motor control, coordination, and learning, which plays a key role in motor skill acquisition and decision making.

Choice Architecture refers to the design of environments and systems that influence human decision making and behavior.
Cingulate Cortex is a region in the frontal lobe involved in error detection, conflict monitoring, and motivation, which is essential for executive function and decision making.
Cognitive Bias is a systematic error in thinking or decision making, which can lead to suboptimal outcomes and decisions.
Cognitive Dissonance is the feeling of discomfort or tension that occurs when an individual holds conflicting beliefs or values, which can influence decision making and behavior.
Cognitive Load is the amount of mental effort required to complete a task, which can impact performance and decision making.
Cognitive Neuroscience is an interdisciplinary field that combines insights from psychology, neuroscience, and computer science to understand human cognition and decision making.
Conditioning is a type of learning in which a behavior is associated with a stimulus, which can influence behavioral decision making.
Conflict Monitoring is the ability to detect and resolve conflicts between different goals, values, or motivations, which is essential for effective decision making and problem solving.
Connectionism is a theoretical framework that posits that mental processes can be understood in terms of the interactions between simple units, which can be used to model neural processing and decision making.
Consciousness refers to the state of being aware of one's surroundings, thoughts, and feelings, which is crucial for effective decision making and problem solving.
Context-Dependent Memory is the phenomenon in which memories are more easily retrieved when the context in which they were formed is recreated, which can influence memory and decision making.
Control Theory is a mathematical framework for understanding and controlling complex systems, which can be used to model dynamic decision making and problem solving.
Convergence is the process by which different sources of information are integrated to form a coherent perception or decision, which is essential for effective information processing and decision making.
Cortex is the outer layer of the brain responsible for processing sensory information, controlling movement, and facilitating thought and perception, which plays a key role in cognitive function and decision making.
Cost-Benefit Analysis is a method of decision making that involves weighing the potential costs and benefits of a particular action, which can be used to support rational decision making.
Creativity is the ability to generate novel and valuable ideas, which is crucial for effective problem solving and decision making.
Decision Fatigue is the phenomenon in which the quality of decisions declines after a long period of decision making, which can lead to suboptimal outcomes and decisions.
Decision Making is the process of selecting a course of action from a set of alternatives, which is a fundamental aspect of human behavior and cognition.
Decision Support System is a computer-based system that provides information and analysis to support decision making, which can be used to enhance informed decision making.
Decision Tree is a graphical representation of a decision-making process, which can be used to model and analyze complex decision making.
Default Mode Network is a network of brain regions active during rest and deactivation, which is involved in self-referential thinking and decision making.

Dementia is a condition characterized by cognitive decline, including impairments in memory, language, and decision making, which can impact cognitive function and decision making.
Dendrite is a branching extension of a neuron that receives synaptic inputs from other neurons, which plays a key role in neural processing and decision making.
Depolarization is the process by which a neuron becomes less polarized and more likely to fire, which is essential for neural transmission and decision making.
Diffusion Tensor Imaging is a neuroimaging technique that measures the diffusion of water molecules in the brain, which can be used to study white matter tracts and decision making.
Discounting is the tendency to value immediate rewards over future rewards, which can lead to suboptimal decision making and impulsivity.
Dissociation is a phenomenon in which different cognitive processes or systems become disconnected, which can impact cognitive function and decision making.
Dopamine is a neurotransmitter involved in motivation, reward, and pleasure, which plays a key role in reward-based learning and decision making.
Dorsolateral Prefrontal Cortex is a region in the frontal lobe involved in working memory, decision making, and executive function, which is essential for executive control and decision making.
Dual-Process Theory is a theoretical framework that posits that there are two distinct modes of thinking: intuitive and analytical, which can be used to understand cognitive biases and decision making.
Dual-Task Interference is the phenomenon in which the performance of two tasks simultaneously is impaired due to competition for shared resources, which can impact performance and decision making.
Echo-Planar Imaging is a neuroimaging technique that measures changes in blood flow and oxygenation in the brain, which can be used to study brain function and decision making.
Economies of Scale refer to the cost advantages that arise when production is increased, which can impact decision making and resource allocation.
Effort-Based Decision Making is the process of selecting a course of action based on the perceived effort required, which can be influenced by motivation and decision making.
Embodied Cognition is a theoretical framework that posits that cognitive processes are grounded in sensorimotor experiences, which can be used to understand action-based decision making.
Emotional Granularity is the ability to distinguish between subtly different emotional states, which can impact emotional