Strategic Plan

AI KR Strategists

Strategic Business Unit

Artificial Intelligence Knowledge Representation Community Group (AIKR CG)

Plan Details

Plan period: from 01/04/2020

This plan defines the roles AI KR Strategists.

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Stakeholders

- Paul Alagna (Responsible)
- Carl Mattocks (Responsible) :

  Drafted the original plan.
- Owen Ambur (Responsible)
- Chris Fox (Responsible)

Other Groups:

- AI KR Strategists (Responsible)

1. Analysis

2. Direction

2-1. Vision

Work performed and works created for each AI value proposition is clearly and transparently documented and measured.

2-2. Mission

To be responsible and accountable for the selection, development, application and management of Knowledge Representation (KR) for Artificial Intelligence (AI).

2-3. Scorecard

Perspective	Goals	Objectives	Performance Indicators	Commentary
	Strategic Plan	Algorithms		
		Ontology		
	Applications			
	Requirements			
	Glossaries			
	Risks	Bias		
		Consequences		
		Control		
		Data		
		Governance		
		Intellectual Property	Existing rights	
			Created Rights	
			Protected works	
			Disputes raised	
			Disputes resolved	
		Privacy		
		Security		
	Compliance			
	Ethics	Accountability		
		Autonomy		
		Confidentiality		
		Veracity		

	Robustness		
	Outcomes		
	Algorithm Evaluation	Classification	Precision Recall
			Accuracy
			Confusion Matrix
			Per-class accuracy
			Log-Loss
			AUC-ROC Curve
			F-measure
			NDCG
			Regression Analysis
			Quantiles of Errors
			"Almost correct" predictions
		Trustworthiness	
	KR Objects		

2-4. Goals

2-4-1. Strategic Plan

Goal Statement: Document the vision, values, goals, objectives for one or more AIKR objects

An AI KR Object may be :

- an algorithm (example - enable an entity to determine consequences; a set of instructions that provide the ability to monitor and/or move the environment; the rules that are used to change/manipulate/interpret data)
- an ontology (which has a set of ontological commitments) See Goal - Ontological Statements (provides sufficient definition to allow measurement to be performed)
- an Intelligent Reasoning (fragmentary) Theory, such as,
    - deduction,
    - induction,
    - abduction,
    - by analogy,
    - probabilistic,
    - case-based

- a Reasoning Mechanism (computational environment), such as,
  - natural language processer,
  - rules engine,
  - machine learning

- a Vocabulary (medium of human expression)

Objectives:

- Ontology
- Algorithms

2-4-2. Applications

Goal Statement: Understand the potential applications of AI to business strategies.

2-4-3. Requirements

Goal Statement: Identify which areas of the requirements warrant AI solutions versus which can be achieved with other types of solutions

2-4-4. Glossaries

Goal Statement: Employ definitions from one or more glossaries when explaining AIKR object audit data, veracity facts and (human, social and technology) risk mitigation factors

So that (business) people more readily understand the value that the glossaries bring.

2-4-5. Risks

Goal Statement: Identify and mitigate risks and known threats

A guiding principle is that AIKR systems must mitigate risks.

Objectives:

- Consequences
- Data
- Bias
- Security
- Control
- Intellectual Property

- Privacy
- Governance

2-4-6. Compliance

Goal Statement: Ensure AI Systems comply with all applicable laws and regulations, such as, provision audit data defined by a governance operating model

Compliance policies and procedures ensure that a planned change to a KR Object usage will comply with applicable laws/regulations during the identification, development, documentation, testing, validation, implementation, modification, use and retirement lifecycle

2-4-7. Ethics

Goal Statement: Ensure AI Systems adhere to principles of ethics

Objectives:

- Autonomy
- Veracity
- Accountability
- Confidentiality

2-4-8. Robustness

Goal Statement: Ensure AI Systems are designed to handle uncertainty and tolerate perturbation from a likely threat perspective, such as, design considerations incorporate human, social and technology risk factors

2-4-9. Outcomes

Goal Statement: Track AIKR object performance outcome via KPI (Key Performance Indicator) based on supervised learning models measurements

2-4-10. Algorithm Evaluation

Goal Statement: Evaluate Algorithms

Assess how well Algorithm results match actual outcomes to determine

- how sensitive inferences made are to the parameters and
- the proportion of observations made were accurately predicted.

When needed the algorithmic impact assessments will also identify cause and effect of any biases.

Objectives:

- Trustworthiness
- Classification

2-4-11. KR Objects

Goal Statement: Evaluate KR Object Performance

KR Object oversight mechanisms will define how performance measurements are used via human-in-the-loop, human-on-the-loop, and human-in-command approaches