

Figures and Tables that complements SC42 Japan National Body comment

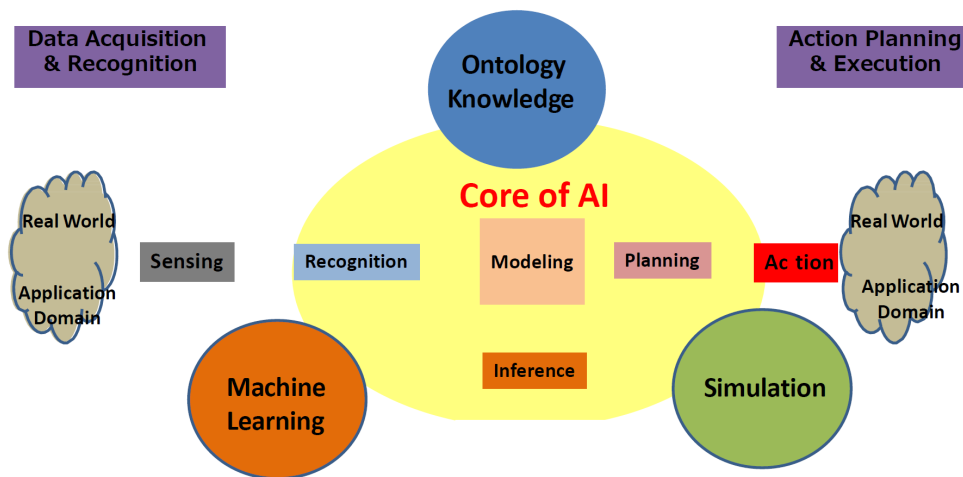


Figure 1. Cognitive model of human and AI

Table 1. Example of terminology list for biases

Terminology	Explanation	Source or reference
Acquiescence bias	A category of response bias in which respondents to a survey have a tendency to agree with all the questions or to indicate a positive connotation	<a href="#">Psychology–Problem Solving, Books LLC ©, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 2.</a> also in <a href="https://en.wikipedia.org/wiki/Acquiescence_bias">https://en.wikipedia.org/wiki/Acquiescence_bias</a>
Activity bias	A type of selection bias that occurs when systems/platforms get their training data from their most active users, rather than those less active (or inactive)	<a href="#">R. Baeza-Yates, Bias on the web, Commun. ACM. 61 (2018) 54–61.</a>
Actor observer bias	the tendency for explanations for other individual’s behaviors to overemphasize the influence of their personality and underemphasize the influence of their situation. This is coupled with the opposite tendency for the self in that one’s explanations for their own behaviors overemphasize their situation and underemphasize the influence of their personality. (see also fundamental attribution error).	<a href="https://rationalwiki.org/wiki/List_of_cognitive_biases">https://rationalwiki.org/wiki/List_of_cognitive_biases</a>

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Ad hominem	<p>short for argumentum ad hominem, is a form of criticism directed at something about the person one is criticizing, rather than something (potentially, at least) independent of that person. When used inappropriately, it is a fallacy in which a claim or argument is dismissed on the basis of some irrelevant fact or supposition about the author or the person being criticized.[2]</p> <p>Ad hominem reasoning is not always fallacious, for example, when it relates to the credibility of statements of fact or when used in certain kinds of moral and practical reasoning</p>	<p><a href="https://en.wikipedia.org/wiki/Ad_hominem">https://en.wikipedia.org/wiki/Ad_hominem</a></p>
Affect heuristic	<p>A good feeling toward a situation would lead to a lower risk perception and a higher benefit perception, even when this is logically not warranted for that situation</p>	<p><a href="#">Psychology–Problem Solving, Books LLC ®, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 2.</a></p> <p><a href="#">also in</a></p> <p><a href="https://en.wikipedia.org/wiki/Affect_heuristic">https://en.wikipedia.org/wiki/Affect_heuristic</a></p>
All-or-nothing thinking Cognitive distortions	<p>Splitting (also called black-and-white thinking or all-or-nothing thinking) is the failure in a person's thinking to bring together the dichotomy of both positive and negative qualities of the self and others into a cohesive, realistic whole. It is a common defense mechanism.[1] The individual tends to think in extremes (i.e., an individual's actions and motivations are all good or all bad with no middle ground).</p>	<p><a href="#">Psychology–Problem Solving, Books LLC ®, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 13.</a></p> <p><a href="#">also in</a></p> <p><a href="https://en.wikipedia.org/wiki/Splitting_(psychology)">https://en.wikipedia.org/wiki/Splitting_(psychology)</a></p>
Ambiguity effect	<p>the avoidance of options for which missing information makes the probability seem "unknown".</p> <p>The ambiguity effect is a cognitive bias where decision making is affected by a lack of information, or "ambiguity".[1] The effect implies that people tend to select options for which the probability of a favorable outcome is known, over an option for which the probability of a favorable outcome is unknown. The effect was first described by Daniel Ellsberg in 1961</p>	<p><a href="https://en.wikipedia.org/wiki/Ambiguity_effect">https://en.wikipedia.org/wiki/Ambiguity_effect</a></p>

Amplification bias	Arises when the distribution over prediction outputs is skewed in comparison to the prior distribution of the prediction target	I. Misra, C.L. Zitnick, M. Mitchell, R. Girshick, Seeing through the Human Reporting	NIS T
Anchoring	Common human tendency to rely too heavily, or "ancho," on one trait or piece of information when making decisions	<a href="#">Psychology–Problem Solving, Books LLC ®, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 3.</a> <a href="#">also in</a> <a href="https://www.sciencedaily.com/terms/anchoring.htm">https://www.sciencedaily.com/terms/anchoring.htm</a>	
Annotator bias, Human reporting bias	When users rely on automation as a heuristic replacement for their own information seeking and processing	Bias: Visual Classifiers from Noisy Human-Centric Labels, in: 2016 IEEE Conference on Computer Vision and Pattern Recognition (CVPR), IEEE, Las Vegas, NV, USA, 2016: pp. 2930–2939	NIS T
Anthropic bias	The bias arising when "your evidence is biased by observation selection effects," according to philosopher Nick Bostrom.	<a href="#">Psychology–Problem Solving, Books LLC ®, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 3.</a> <a href="#">also in</a> <a href="http://psychology.wikia.com/wiki/Anthropic_bias">http://psychology.wikia.com/wiki/Anthropic_bias</a>	
Apophenia	The experience of seeing patterns or connections in random or meaningless data.	<a href="#">Psychology–Problem Solving, Books LLC ®, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 4.</a> <a href="#">also in</a> <a href="https://www.psychologytoday.com/us/blog/reality-play/201207/being-amused-apophenia">https://www.psychologytoday.com/us/blog/reality-play/201207/being-amused-apophenia</a>	
Argument from authority	a common form of argument which leads to a logical fallacy when misused.  In informal reasoning, the appeal to authority is a form of argument attempting to establish a statistical syllogism. The appeal to authority relies on an argument of the form:  A is an authority on a particular topic A says something about that topic A is probably correct	<a href="http://neuroclusterbrain.com/appeal_to_authority.html">http://neuroclusterbrain.com/appeal_to_authority.html</a>	
Argument from Ignorance	Also known as appeal to ignorance (in which ignorance stands for "lack of evidence to the contrary"), is a fallacy in informal logic. It asserts that a proposition is true because it has not yet been proven false (or vice versa). This represents a type of false dichotomy in that it excludes a third option, which is that there is insufficient investigation and therefore insufficient information to prove the proposition satisfactorily to be either true or false. Nor does it allow the admission that the choices	<a href="https://en.wikipedia.org/wiki/Argument_from_ignorance">https://en.wikipedia.org/wiki/Argument_from_ignorance</a>	

	<p>may in fact not be two (true or false), but may be as many as four,</p> <ol style="list-style-type: none"> <li>1.true</li> <li>2.false</li> <li>3.unknown between true or false</li> <li>4.being unknowable (among the first three)</li> </ol> <p>In debates, appeals to ignorance are sometimes used to shift the burden of proof.</p>	
Attentional bias	<p>A form of cognitive bias in which a person does not examine all possible outcomes when making a judgment about a correlation or association. They may focus on one or two possibilities, while ignoring the rest.</p>	<p><a href="#">Psychology–Problem Solving, Books LLC ®, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 4.</a>  <a href="#">also in</a>  <a href="http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.324.4312&amp;rep=rep1&amp;type=pdf">http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.324.4312&amp;rep=rep1&amp;type=pdf</a>  <a href="https://en.wikipedia.org/wiki/Attentional_bias#cite_note-Bar-Haim2007-1">https://en.wikipedia.org/wiki/Attentional_bias#cite_note-Bar-Haim2007-1</a></p>
Attitude polarization	<p>The tendency of people to search for and interpret evidence selectively, to reinforce their current beliefs or attitudes.</p>	<p><a href="#">Psychology–Problem Solving, Books LLC ®, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 5.</a>  <a href="#">also in</a>  <a href="https://en.wikipedia.org/wiki/Group_polarization">https://en.wikipedia.org/wiki/Group_polarization</a></p>
Attribute substitution	<p>It occurs when an individual has to make a judgment (of a target attribute) that is computationally complex, and instead substitutes a more easily calculated heuristic attribute.</p>	<p><a href="#">Psychology–Problem Solving, Books LLC ®, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 5.</a>  <a href="#">also in</a>  <a href="https://biasandbelief.wordpress.com/2009/06/01/attribute-substitution/">https://biasandbelief.wordpress.com/2009/06/01/attribute-substitution/</a></p>
Attributional bias	<p>Cognitive biases which affect attribution -- the way we determine who or what was responsible for an event or action. Such biases typically rely on actor/observer differences -- people involved in an action view things differently from those people outside (Observers).</p>	<p><a href="#">Psychology–Problem Solving, Books LLC ®, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 7.</a>  <a href="#">also in</a>  <a href="https://en.wikipedia.org/wiki/Attribution_bias#attribution_bias">https://en.wikipedia.org/wiki/Attribution_bias#attribution_bias</a></p>
Automation complacency	<p>When humans over-rely on automated systems or have their skills attenuated by such over-reliance (e.g., spelling and autocorrect or spellcheckers).</p>	
automation bias a kind of human cognitive bias	<p>type of human cognitive bias (3.3.4) due to over-reliance on the recommendations of an AI system (3.2.4)</p>	<p>ISO TR 24027</p>

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Availability heuristic	One important corollary finding to this heuristic is that people asked to imagine an outcome tend to immediately view it as more likely than people that were not asked to imagine the specific outcome.	<a href="#">Psychology–Problem Solving, Books LLC ®, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 7.</a> <a href="#">also in</a> <a href="http://psychology.wikia.com/wiki/Availability_heuristic">http://psychology.wikia.com/wiki/Availability_heuristic</a>
Bandwagon effect	Also known as social proof or “cromo effect”, is the observation that people often do and believe things because many other people do and believe the same things.	<a href="#">Psychology–Problem Solving, Books LLC ®, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 8.</a> <a href="#">also in</a> <a href="http://psychology.wikia.com/wiki/Bandwagon_effect">http://psychology.wikia.com/wiki/Bandwagon_effect</a>
Base rate fallacy	The base rate fallacy, also called base rate neglect or base rate bias, is an error that occurs when the conditional probability of some hypothesis H given some evidence E is assessed without taking into account the “base rate” or “prior probability” of H and the total probability of evidence E.	<a href="#">Psychology–Problem Solving, Books LLC ®, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 9.</a> <a href="#">also in</a> <a href="http://abuse.wikia.com/wiki/Base_rate_fallacy">http://abuse.wikia.com/wiki/Base_rate_fallacy</a>
Behavioral bias	Systematic distortions in user behavior across platforms or contexts, or across users represented in different datasets	H. Miller, J. Thebault–Spieker, S. Chang, I. Johnson, L. Terveen, B. Hecht, “blissfully happy” or “ready to fight”: Varying interpretations of emoji, in: Proceedings of the 10th International Conference on Web and Social Media, ICWSM 2016, AAAI press, 2016: pp. 259–268.
Beneffectance bias	perceiving oneself as responsible for desirable outcomes but not responsible for undesirable ones. (Term coined by Greenwald (1980)) = Self Serving Bias	Medical Error and Harm: Understanding, Prevention, and Control By Milos Jenicek, pp 317
bias	systematic difference in treatment of certain objects, people, or groups in comparison to others Note 1 to entry: Treatment is any kind of action, including perception, observation, representation, prediction, or decision	ISO TR 24027
Bias blind spot	Psychology–Problem Solving, Books LLC ®, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 11. <a href="#">also in</a> A cognitive bias about not compensating for one’s own cognitive biases.	<a href="#">Psychology–Problem Solving, Books LLC ®, Wiki Series, Memphis, USA, 2011, WWW.booksllc.net, pp 11.</a> <a href="#">also in</a> <a href="http://cognitivebiasoftheday.com/story/10-cognitive-biases-explain-why-we-fall-for-fake-news">http://cognitivebiasoftheday.com/story/10-cognitive-biases-explain-why-we-fall-for-fake-news</a>
bias in model interaction a kind of ML model		ISO TR 24027

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architecture bias		
Bias in rule- based system design		ISO TR 24027
Brand Loyalty	<p>When consumers become committed to your brand and make repeat purchases over time. Brand loyalty is a result of consumer behavior and is affected by a person's preferences. Loyal customers will consistently purchase products from their preferred brands, regardless of convenience or price. Companies will often use different marketing strategies to cultivate loyal customers, be it is through loyalty programs (i.e. rewards programs) or trials and incentives (ex. samples and free gifts).</p>	<p><a href="http://blog.bluemediaconsulting.com/explaining-psychological-difference-repeat-purchase-brand-loyalty">http://blog.bluemediaconsulting.com/explaining-psychological-difference-repeat-purchase-brand-loyalty</a></p>
bystander effect	<p>The bystander effect, or bystander apathy, is a social psychological phenomenon that refers to cases in which individuals do not offer any means of help to a victim when other people are present. The probability of help is inversely related to the number of bystanders. In other words, the greater the number of bystanders, the less likely it is that any one of them will help. Several variables help to explain why the bystander effect occurs.</p>	<p><a href="http://evc-cit.info/psych018/imaginary2238.pdf">http://evc-cit.info/psych018/imaginary2238.pdf</a></p>