The State of the Art in Enhancing Trust in Machine Learning Models with the Use of Visualizations: Survey Summary

Table 1: The summary of our survey (as of March 17, 2020). See the updated survey data at `https://trustmlvis.lnu.se`

Technique	A.1.1 Biology	A.1.2 Business	A.1.3 Computer Vision	A.1.4 Computers	A.1.5 Health	A.1.6 Humanities	A.1.7 Nutrition	A.1.8 Simulation	A.1.9 Social / Socioeconomic	A.1.10 Other (Domain)	A.2.1.1 Binary	A.2.1.2 Multi-class	A.2.1.3 Multi-label	A.2.2 Continuous	A.2.3 Other (Target Var.)
[Aup07]				●											●
[GNRM08]									●	●		●			●
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[JZF*09]	●	●								●		●			
[JJ09]										●					●
[SNLH09]	●	●			●				●			●			
[TLKT09]			●									●			
[VL09]										●					●
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[BPFG11]		●													●
[BvLBS11]	●										●				
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[HNH*12]			●								●				
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[KS12]						●						●			
[LKC*12]						●				●		●			
[PSPM12]			●							●		●			
[TMF*12]							●					●			
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[JHB*17]	●									●		●	●		
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[WSW*18]			●							●	●	●	●		●
[ZHP*17]	●											●			

Technique	B.1.1.1 Convolutional Neural Network (CNN)	B.1.1.2 Deep Convolutional Network (DCN)	B.1.1.3 Deep Feed Forward (DFF)	B.1.1.4 Deep Neural Network (DNN)	B.1.1.5 Deep Q-Network (DQN)	B.1.1.6 Generative Adversarial Network (GAN)	B.1.1.7 Long Short-Term Memory (LSTM)	B.1.1.8 Recurrent Neural Network (RNN)	B.1.1.9 Variational Auto-Encoder (VAE)	B.1.1.10 Other (DL Methods)	B.1.2.1 Linear	B.1.2.2 Non-linear	B.1.3.1 Bagging	B.1.3.2 Boosting	B.1.3.3 Stacking	B.1.4 Other (Generic ML Methods)	B.2.1.1 Classification	B.2.1.2 Regression	B.2.1.3 Other	B.2.2.1 Association	B.2.2.2 Clustering	B.2.2.3 DR	B.2.3.1 Classification	B.2.3.2 Clustering	B.2.4.1 Classification	B.2.4.2 Control
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[GNRM08]																●					●					
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Technique	C.1 Pre-processing / Input	C.2 In-processing / Model	C.3 Post-processing / Output	D.1 Model-agnostic / Black Box	D.2 Model-specific / White Box	E.1.1 2D	E.1.2 3D	E.2.1 Computed	E.2.2 Mapped	E.3.1 Aggregated Information	E.3.2 Instance-based / Individual	E.4.1 Bar Charts	E.4.2 Box Plots	E.4.3 Matrix	E.4.4 Glyphs / Icons / Thumbnails	E.4.5 Grid-based Approaches	E.4.6 Heatmaps	E.4.7 Histograms	E.4.8 Icicle Plots	E.4.9 Line Charts	E.4.10 Node-link Diagrams	E.4.11 Parallel Coordinates Plots (PCP)	E.4.12 Pixel-based Approaches	E.4.13 Radial Layouts	E.4.14 Scatterplot Matrices (SPLOMs)	E.4.15 Scatterplots / Projections	E.4.16 Similarity Layouts	E.4.17 Tables / Lists	E.4.18 Treemaps	E.4.19 Other (Visual.)
[Aup07]		●	●	●		●		●		●	●															●				●
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[TLKT09]			●	●		●		●		●				●										●				●		
[VL09]			●			●		●		●														●						
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[SJS*17]			●	●		●		●	●	●	●															●		●		
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[ZHP*17]			●			●		●	●	●	●	●		●		●												●		

Technique	E.5.1 Select	E.5.2 Explore / Browse	E.5.3 Reconfigure	E.5.4 Encode	E.5.5 Filter / Query	E.5.6 Abstract / Elaborate	E.5.7 Connect	E.5.8 Guide / Sheperd	E.5.9 Verbalize	E.6.1 Color	E.6.2 Opacity	E.6.3 Position / Orientation	E.6.4 Shape	E.6.5 Size	E.6.6 Texture	F.1.1 Standard	F.1.2 Comparative	F.2.1 Before / During Development	F.2.2 After Development	F.3 Not Evaluated
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[SNLH09]	●									●	●						●		●	
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[VL09]		●								●			●							●
[CLKP10]	●	●		●	●	●	●			●	●									●
[IMI*10]	●	●	●	●	●	●	●	●		●										●
[KLTH10]		●								●						●				
[MSW10]	●				●	●			●	●		●		●						●
[MW10]	●	●				●	●			●		●		●						●
[PBK10]	●	●		●	●	●	●			●	●								●	
[SvLB10]	●	●	●	●	●					●		●			●					●
[SSK10]										●										●
[AYMW11]	●	●			●		●			●	●								●	
[AEM11]										●							●		●	
[BPFG11]	●	●			●		●	●		●		●				●			●	
[BvLBS11]	●	●		●	●	●	●	●		●				●						●
[LA11]										●			●							●
[MBD*11]	●		●	●						●	●			●						●
[MvW11]	●	●		●		●				●	●		●					●		
[TPRH11]	●	●		●			●			●										●
[vv11]	●	●		●	●	●	●	●		●		●	●	●						●
[dBD*12]	●	●								●		●								●
[BLBC12]	●	●		●		●	●			●	●					●				
[EGG*12]	●	●	●	●			●			●	●	●				●			●	
[HNH*12]	●	●	●	●	●	●		●	●	●	●	●								●
[JKM12]		●								●										●
[KS12]	●	●	●			●				●		●								●
[LKC*12]	●	●		●	●	●	●			●										●
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[TMF*12]		●		●			●			●									●	
[FSJ13]	●	●			●					●		●			●					●
[Gle13]	●	●	●		●					●	●									●
[MP13]	●	●					●	●		●				●				●		
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[BAF*14]	●	●					●			●		●								●
[CS14]		●			●	●			●	●								●		
[GS14]	●	●			●					●				●						●
[KPB14]	●	●	●	●	●	●		●		●								●	●	
[LMZ*14]	●	●	●							●	●			●						●
[LWBP14]	●	●	●	●	●	●	●	●		●				●						●
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[RL14]										●										●
[SPG14]	●	●	●	●	●	●	●	●		●	●									●
[ZF14]							●			●					●					●
[ZWRH14]	●	●	●	●	●		●	●		●	●					●				
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[BAF*15]	●			●			●			●	●									●
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[KBWS15]		●	●	●		●			●	●						●				
[LWT*15]	●	●			●											●			●	
[RSF*15]	●				●					●										●
[RL15a]	●						●			●		●								●
[RL15b]																				●
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[YCN*15]	●	●	●			●				●										●
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[KPN16]	●	●	●	●	●	●				●				●						●
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[KPB16]	●	●								●		●								●
[RL16]										●	●									●
[SDMT16]	●	●		●		●	●			●	●					●				
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[ZLH*16]	●	●	●				●			●		●	●						●	
[BEF17]	●	●	●		●	●	●			●	●					●				
[BDSF17]	●	●			●		●			●										●
[CGR*17]	●	●	●			●	●			●		●		●						●
[CWS*17]	●	●				●	●			●	●	●		●		●			●	
[JHB*17]		●								●		●								●
[JC17b]		●	●		●															●
[KDS*17]	●	●	●	●	●	●	●	●		●					●			●		
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[MCZ*17]	●	●			●	●	●			●		●		●		●			●	
[PSF17]	●	●			●	●	●			●							●			
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[RAL*17]	●	●	●		●	●	●			●	●				●				●	
[SJS*17]	●	●	●	●	●	●	●	●	●	●										●
[SMSL17]	●	●		●	●	●														●
[SW17]	●	●			●					●										●
[SLT17]		●				●	●			●	●					●				
[TKDB17]	●	●		●	●	●	●			●	●									●
[WLN*17]	●	●		●	●		●	●		●	●									●
[WSW*18]	●	●	●		●	●	●			●			●	●				●	●	
[ZHP*17]	●	●		●	●	●	●			●	●		●							●

Technique	G.1.1 Source Reliability	G.1.2 Transparent Collection Process	G.2.1 Uncertainty Awareness	G.2.2 Equality / Data Bias	G.2.3 Comparison (of Structures)	G.2.4 Guidance / Recommendations	G.2.5 Outlier Detection	G.3.1 Familiarity	G.3.2.1 Understanding / Explanation	G.3.2.2 Debugging / Diagnosis	G.3.2.3 Refinement / Steering	G.3.2.4 Comparison	G.3.3 Knowledgeability	G.3.4 Fairness	G.4.1 Experience	G.4.2 In Situ Comparison	G.4.3 Performance	G.4.4 What-if Hypotheses	G.4.5 Model Bias	G.4.6 Model Variance	G.5.1 Agreement of Colleagues	G.5.2 Visualization Evaluation	G.5.3 Metrics Validation / Results	G.5.4 User Bias	H.1 Beginners	H.2 Practitioners / Domain Experts	H.3 Developers	H.4 ML Experts
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[CDS09]									●		●					●	●									●		
[JZF*09]			●		●		●		●													●	●		●	●		
[JJ09]			●			●				●	●	●						●					●				●	●
[SNLH09]			●			●	●			●		●					●						●			●	●	
[TLKT09]												●					●					●	●					●
[VL09]					●																		●			●		
[CLKP10]					●	●	●		●														●			●		
[IMI*10]					●	●			●							●										●		
[KLTH10]											●						●	●		●		●	●	●	●	●	●	●
[MSW10]						●					●															●		
[MW10]					●						●					●		●					●			●		
[PBK10]	●						●					●										●	●			●		
[SvLB10]					●					●		●					●						●			●	●	
[SSK10]																	●						●		●	●		●
[AYMW11]					●						●						●									●		
[AEM11]					●																		●					
[BPFG11]			●								●									●		●				●		
[BvLBS11]					●	●											●								●	●		
[LA11]									●			●													●			
[MBD*11]					●	●																	●			●		
[MvW11]									●							●	●					●	●			●		
[TPRH11]					●		●																●			●		
[vv11]					●		●		●		●						●						●			●		
[dBD*12]											●															●		●
[BLBC12]							●			●	●											●	●			●		
[EGG*12]	●										●											●	●			●		
[HNH*12]	●	●		●					●		●						●						●			●		
[JKM12]					●				●																	●		
[KS12]											●					●										●	●	●
[LKC*12]					●	●	●																●			●		
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[TMF*12]					●	●	●								●							●	●			●		
[FSJ13]					●				●		●							●										●
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[BAF*14]					●					●	●									●						●		
[CS14]					●												●					●				●		
[GS14]							●			●	●												●				●	
[KPB14]					●	●						●					●					●	●			●		
[LMZ*14]																●	●									●		
[LWBP14]			●		●	●	●		●		●					●	●									●		
[MCMT14]							●					●					●						●					
[ML14]									●									●								●		
[PSMD14]									●		●					●	●						●			●		●
[RL14]							●					●					●						●					●
[SPG14]			●	●	●					●	●												●			●		
[ZF14]					●		●			●	●								●	●			●				●	●
[ZWRH14]					●		●										●	●	●	●		●	●			●		
[ACD*15]				●			●			●							●	●									●	
[BAF*15]							●					●					●				●		●			●		
[BAL*15]	●				●	●											●					●	●			●		●
[CMN*16]							●					●				●	●						●		●			
[JPN15]					●	●			●	●		●														●		
[KBWS15]					●	●											●					●			●	●	●	●
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[RSF*15]										●	●							●					●			●		●
[RL15a]					●							●					●									●		
[RL15b]			●		●					●		●					●										●	●
[SRM*15]							●		●							●							●		●	●		
[YCN*15]					●				●																	●		
[BAPB*16]																●	●	●				●	●			●		
[CCZ*16]				●			●										●					●	●			●	●	●
[FMH16]										●	●						●					●	●			●		
[GSC16]					●	●																●		●		●		
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[KPN16]							●					●					●	●	●	●			●			●		
[KDFB16]									●		●												●			●		
[KPB16]									●	●								●							●	●		
[RL16]					●	●														●			●			●		
[SDMT16]					●		●		●							●			●			●	●		●	●		●
[TSL*16]												●					●	●			●	●	●			●	●	
[XCH*16]					●		●														●		●			●		
[ZYB*16]									●	●	●	●							●	●	●	●	●			●		
[ZTR16]									●							●									●	●		
[ZLH*16]					●				●													●				●		
[BEF17]			●		●						●											●	●			●		
[BDSF17]					●		●					●					●									●		●
[CGR*17]					●				●	●	●					●							●			●		
[CWS*17]									●		●					●		●				●	●			●		
[JHB*17]					●	●	●		●			●											●			●		
[JC17b]											●					●	●							●			●		●
[KDS*17]			●	●					●	●	●						●	●				●	●			●		●
[KKW*17]			●				●		●							●						●				●		
[LSL*17]							●		●	●	●					●	●					●	●					●
[MCM*17]						●	●		●							●	●	●			●		●			●		
[MSM*17]			●		●	●									●		●					●	●			●		
[MCZ*17]					●				●	●		●										●				●		●
[PSF17]					●	●					●											●	●			●		
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[RAL*17]												●	●				●					●	●		●	●		●
[SJS*17]			●		●							●	●				●						●			●		●
[SMSL17]							●				●	●							●	●			●			●		
[SW17]									●							●										●		
[SLT17]		●	●			●											●	●				●	●		●			
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[WLN*17]			●		●	●	●																●			●		●
[WSW*18]									●	●						●					●	●			●	●	●	●
[ZHP*17]									●	●						●	●									●		●

Table 2: The summary of our survey (continued).

Technique	A.1.1 Biology	A.1.2 Business	A.1.3 Computer Vision	A.1.4 Computers	A.1.5 Health	A.1.6 Humanities	A.1.7 Nutrition	A.1.8 Simulation	A.1.9 Social / Socioeconomic	A.1.10 Other (Domain)	A.2.1.1 Binary	A.2.1.2 Multi-class	A.2.1.3 Multi-label	A.2.2 Continuous	A.2.3 Other (Target Var.)	B.1.1.1 Convolutional Neural Network (CNN)	B.1.1.2 Deep Convolutional Network (DCN)	B.1.1.3 Deep Feed Forward (DFF)	B.1.1.4 Deep Neural Network (DNN)	B.1.1.5 Deep Q-Network (DQN)	B.1.1.6 Generative Adversarial Network (GAN)	B.1.1.7 Long Short-Term Memory (LSTM)	B.1.1.8 Recurrent Neural Network (RNN)	B.1.1.9 Variational Auto-Encoder (VAE)	B.1.1.10 Other (DL Methods)	B.1.2.1 Linear	B.1.2.2 Non-linear	B.1.3.1 Bagging	B.1.3.2 Boosting	B.1.3.3 Stacking	B.1.4 Other (Generic ML Methods)	B.2.1.1 Classification	B.2.1.2 Regression	B.2.1.3 Other	B.2.2.1 Association	B.2.2.2 Clustering	B.2.2.3 DR	B.2.3.1 Classification	B.2.3.2 Clustering	B.2.4.1 Classification	B.2.4.2 Control
[AJY*18]			●									●				●																●									
[AMJ18]		●	●							●		●				●															●	●									
[BZL*18]	●		●							●		●																●			●							●	●		
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[SZL*18]										●	●				●												●				●					●	●				
[TLRB18]	●							●		●	●	●														●						●									
[VKA*18]	●														●																●			●							
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[HHC*19]		●			●					●	●			●																	●	●	●								
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[HVP*19]	●		●												●												●										●				
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[KTC*19]										●	●										●											●									
[KKB19]										●		●														●	●				●					●	●				
[KCK*19]					●						●												●									●									
[LJLH19]						●		●		●		●												●			●										●				
[LLL*19]						●						●													●							●									
[Mad19]						●									●								●									●									
[MXQR19]	●				●	●				●		●											●									●									
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[MMD*19]						●				●	●					●						●			●							●									
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[SKKC19]																															●	●	●		●			●			
[SPBA19]										●				●	●					●																					●
[SBP19]						●						●											●									●									
[SGB*19]						●						●							●				●									●									
[TCE*19]									●	●		●																			●	●									
[WMJ*19]				●						●	●			●										●				●			●	●									
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[MXLM20]			●							●	●	●																			●	●									
[MXC*20]						●					●	●										●	●									●									
[WPB*20]			●						●	●	●	●							●													●									

Technique	C.1 Pre-processing / Input	C.2 In-processing / Model	C.3 Post-processing / Output	D.1 Model-agnostic / Black Box	D.2 Model-specific / White Box	E.1.1 2D	E.1.2 3D	E.2.1 Computed	E.2.2 Mapped	E.3.1 Aggregated Information	E.3.2 Instance-based / Individual	E.4.1 Bar Charts	E.4.2 Box Plots	E.4.3 Matrix	E.4.4 Glyphs / Icons / Thumbnails	E.4.5 Grid-based Approaches	E.4.6 Heatmaps	E.4.7 Histograms	E.4.8 Icicle Plots	E.4.9 Line Charts	E.4.10 Node-link Diagrams	E.4.11 Parallel Coordinates Plots (PCP)	E.4.12 Pixel-based Approaches	E.4.13 Radial Layouts	E.4.14 Scatterplot Matrices (SPLOMs)	E.4.15 Scatterplots / Projections	E.4.16 Similarity Layouts	E.4.17 Tables / Lists	E.4.18 Treemaps	E.4.19 Other (Visual.)	E.5.1 Select	E.5.2 Explore / Browse	E.5.3 Reconfigure	E.5.4 Encode	E.5.5 Filter / Query	E.5.6 Abstract / Elaborate	E.5.7 Connect	E.5.8 Guide / Sheperd	E.5.9 Verbalize
[AJY*18]			●	●	●	●		●	●	●	●			●			●		●										●			●	●	●	●	●	●	●	●	
[AMJ18]			●			●		●		●	●	●	●																		●									
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[SJS*18]	●		●	●		●		●	●	●	●						●									●					●	●	●	●	●	●		●	●
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[SNMM18]		●	●		●	●		●			●											●				●	●				●	●	●	●	●				
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[XYC*18]			●	●		●		●		●	●	●								●						●						●							
[YZR*18]			●	●		●			●	●	●		●	●	●	●	●									●	●				●								
[ZWC*18]			●	●		●		●		●	●	●			●									●		●		●			●	●		●	●	●	●		
[ASW*19]		●			●	●			●		●					●												●		●			●					●	
[BHR*19]			●	●		●		●		●	●						●								●		●				●	●		●					
[CWGW19]			●	●	●	●		●		●		●		●	●					●						●					●	●		●	●	●	●		
[CEH*19]	●			●		●		●	●	●	●	●						●										●			●	●	●	●	●	●	●	●	
[CHH*19]			●	●		●		●	●	●	●	●		●				●		●	●							●			●	●	●	●	●	●	●	●	
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[CAA*19]			●	●		●		●		●	●			●	●	●										●					●	●		●	●	●	●	●	
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[HVP*19]			●	●		●		●	●	●					●											●					●	●							
[JSO19]			●	●		●			●	●	●															●	●				●	●							
[JSR*19]			●		●	●		●	●	●	●	●		●			●				●	●				●	●			●	●	●	●		●	●	●		
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[Mad19]			●		●	●		●	●	●	●									●										●					●		●		
[MXQR19]			●		●	●		●	●		●						●			●								●											●
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[RG19]			●	●	●	●			●	●	●		●	●			●			●								●			●	●				●	●		
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[ZWLC19]	●		●		●	●		●	●	●	●	●						●		●	●					●		●			●	●		●	●	●	●		
[ZCW*19]			●	●		●		●	●	●	●	●		●	●											●		●			●	●		●	●	●	●		
[AL20]	●	●	●	●		●		●	●	●	●	●			●	●		●			●					●		●			●	●	●	●	●	●	●	●	
[BWZ*20]	●			●		●		●	●	●	●	●			●			●	●		●							●				●		●	●	●	●		
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[FCS*20]		●		●		●		●	●	●	●											●			●	●					●	●	●	●		●	●		
[GSK*20]			●	●	●	●		●	●	●	●										●							●		●	●	●				●	●		
[GSS*20]			●		●	●		●		●												●					●			●									
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[MXC*20]		●			●	●		●	●	●	●	●		●	●						●										●	●	●	●	●	●	●		
[WPB*20]			●	●		●		●		●	●	●		●	●			●		●						●	●	●			●	●	●	●		●	●		

Technique	E.6.1 Color	E.6.2 Opacity	E.6.3 Position / Orientation	E.6.4 Shape	E.6.5 Size	E.6.6 Texture	F.1.1 Standard	F.1.2 Comparative	F.2.1 Before / During Development	F.2.2 After Development	F.3 Not Evaluated	G.1.1 Source Reliability	G.1.2 Transparent Collection Process	G.2.1 Uncertainty Awareness	G.2.2 Equality / Data Bias	G.2.3 Comparison (of Structures)	G.2.4 Guidance / Recommendations	G.2.5 Outlier Detection	G.3.1 Familiarity	G.3.2.1 Understanding / Explanation	G.3.2.2 Debugging / Diagnosis	G.3.2.3 Refinement / Steering	G.3.2.4 Comparison	G.3.3 Knowledgeability	G.3.4 Fairness	G.4.1 Experience	G.4.2 In Situ Comparison	G.4.3 Performance	G.4.4 What-if Hypotheses	G.4.5 Model Bias	G.4.6 Model Variance	G.5.1 Agreement of Colleagues	G.5.2 Visualization Evaluation	G.5.3 Metrics Validation / Results	G.5.4 User Bias	H.1 Beginners	H.2 Practitioners / Domain Experts	H.3 Developers	H.4 ML Experts
[AJY*18]	●	●								●						●		●		●							●	●					●	●					●
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[BZL*18]	●										●					●	●	●					●					●									●		
[CPM*18]	●										●									●							●							●		●			
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[CHAS18]	●			●		●					●						●				●		●					●								●	●		
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[KAKC18]	●	●		●					●											●								●					●	●		●	●		
[KSH18]	●										●						●											●						●			●		
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[KPB18]	●				●		●					●	●		●					●	●												●				●		
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[LLS*18]	●	●		●					●											●								●					●						●
[LSC*18]	●	●							●									●		●	●							●					●	●					●
[LCJ*18]	●		●	●	●				●									●		●	●						●	●					●	●			●		●
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[SZL*18]	●										●					●				●			●				●										●		●
[TLRB18]	●										●				●					●							●							●		●	●		
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[CHH*19]	●				●		●		●											●	●	●	●					●				●	●	●			●		●
[CD19]	●	●		●	●		●							●		●	●	●		●		●						●	●				●	●		●	●		
[CBB*19]	●			●	●						●					●	●	●				●	●											●			●		
[CAA*19]	●	●		●						●						●	●	●																●			●		
[DCCE19]	●	●		●							●						●					●	●					●	●					●		●			
[GHG*19]	●										●				●			●				●	●							●				●			●		●
[GDM*19]	●	●			●			●		●										●				●									●			●	●		
[HDK*19]	●		●		●						●											●					●		●					●			●	●	●
[HHC*19]	●	●					●									●				●							●		●	●			●				●		●
[HSD19]	●		●		●						●					●				●									●							●	●		
[HVP*19]	●										●					●																		●			●		
[JSO19]	●										●				●	●																		●		●	●		
[JSR*19]	●		●		●		●			●						●				●		●											●				●		
[KTC*19]	●	●	●								●									●								●						●		●			●
[KKB19]	●		●			●					●			●																				●		●	●	●	●
[KCK*19]	●	●		●						●										●		●						●	●	●			●	●			●		
[LJLH19]	●		●	●							●			●		●	●	●		●	●	●	●						●								●		●
[LLL*19]	●	●				●			●	●						●		●		●	●						●	●	●				●	●			●		
[Mad19]	●										●									●			●					●						●		●		●	●
[MXQR19]	●						●													●		●						●					●	●		●	●		
[MQB19]	●	●				●	●													●		●	●				●	●					●	●		●	●		
[MMD*19]	●	●		●	●				●						●			●		●			●				●	●					●	●			●	●	●
[PLHL19]	●				●						●										●		●					●						●			●		
[RG19]	●		●								●					●		●				●	●				●	●		●	●			●			●		
[SKKC19]	●			●							●					●		●		●	●	●	●					●								●	●	●	●
[SPBA19]	●	●	●		●						●									●	●							●						●					●
[SBP19]	●		●		●						●									●	●	●					●		●					●				●	●
[SGB*19]	●	●			●					●										●	●						●		●				●	●			●		●
[TCE*19]	●			●	●			●							●												●	●					●				●		
[WMJ*19]	●	●					●		●													●	●	●	●	●		●					●	●		●	●		●
[WGZ*19]	●	●						●	●					●						●	●							●					●	●			●		●
[WGSY19]	●	●			●					●										●	●	●					●	●					●	●			●		
[WLS19]	●	●									●					●	●										●									●	●		
[XXM*19]	●	●	●		●				●	●						●	●	●					●					●		●	●		●	●			●		
[ZWM*19]	●	●								●													●	●				●					●	●			●		
[ZKM*19]	●	●			●				●							●	●											●					●	●			●		
[ZWLC19]	●	●			●		●			●								●		●							●	●					●	●			●		●
[ZCW*19]	●	●			●		●			●					●			●					●					●					●	●			●		
[AL20]	●		●	●		●		●				●	●	●	●	●	●	●					●		●			●	●	●			●	●			●	●	
[BWZ*20]	●	●			●					●					●	●																	●		●		●		
[CPCS20]	●	●			●		●		●													●	●			●		●	●				●	●		●		●	
[FKM20]	●	●			●						●							●		●														●		●	●		●
[FCS*20]	●				●						●			●				●		●	●							●									●		
[GSK*20]	●		●								●					●				●									●								●		
[GSS*20]	●		●		●						●			●																	●								
[HLW*20]	●	●		●						●				●							●	●						●					●	●			●		
[HPRC20]	●		●		●	●					●									●																	●		●
[KKZE20]	●				●		●									●	●	●						●				●					●				●		●
[MXLM20]	●	●	●	●	●	●				●		●	●	●				●		●							●	●					●	●					●
[MXC*20]	●			●		●			●	●										●	●	●					●	●	●				●	●			●	●	●
[WPB*20]	●								●											●	●		●		●			●	●				●	●		●		●	●