

Authors	Year	Components	Defects	Features	Decision metho
Stella <i>et al.</i>	2002–09	Fasteners	Missing	DWT	3-layer NN
Singh <i>et al.</i>	2006	Fasteners	Missing	Edge density	Threshold
Hsieh <i>et al.</i>	2007	Fasteners	Broken	DWT	Threshold
Gibert <i>et al.</i>	2007–08	Joint Bars	Cracks	Edges	SVM
Babenko	2008	Fasteners	Missing/Defective	Intensity	OT-MACH cor
Xia <i>et al.</i>	2010	Fasteners	Broken	Haar	Adaboost
Yang <i>et al.</i>	2011	Fasteners	Missing	Direction Field	Correlation
Resendiz <i>et al.</i>	2013	Ties/Turnouts	–	Gabor	SVM
Li <i>et al.</i>	2014	Tie plates	Missing spikes	Lines/Haar	Adaboost
Feng <i>et al.</i>	2014	Fasteners	Missing/Defective	Haar	PGM
Gibert <i>et al.</i>	2014	Concrete ties	Cracks	DST	Iterative shrink
Khan <i>et al.</i>	2014	Fasteners	Defective	Harris-Stephen, Shi-Tomasi	Matching error
Gibert <i>et al.</i>	2015	Fasteners	Missing/Defective	HOG	SVM
Gibert <i>et al.</i>	2015	Concrete ties	Tie Condition	Intensity	Deep CNN