As of 03/03/2011:

Colors:
Yellow – filled in by input
Orange – filled in by performance estimation
Blue – filled in by detector
Gray – filled in by feature set
Red – filled in by classifier
Green – filled in by contact correlation
Purple – filled in by operator feedback

Italicized fields are optional and are not used for NSAM.

INPUT

Image structure (input_struct):

Struct field	Data type	Description
.hf	matrix (float)	high frequency image (complex)
.hf_cres	float	high frequency image cross-track resolution in m
.hf_ares	float	high frequency image along-track resolution in m
.hf_cnum	float	high frequency image cross-track dimension in pixels
.hf_anum	float	high frequency image along-track dimension in pixels
.bb	matrix (float)	broadband image (complex)
.bb_cres	float	broadband image cross-track resolution in m
.bb_ares	float	broadband image along-track resolution in m
.bb_cnum	float	broadband image cross-track dimension in pixels
.bb_anum	float	broadband image along-track dimension in pixels
.side	string	side of vehicle from which the image was taken: {“PORT”, “STBD”}
.lat	array (float)	latitude of vehicle (degrees)
.long	array (float)	longitude of vehicle (degrees)
.fn	string	filename of image file/some other image ID

.havegt	int	1 = ground truth data available; 0 = no ground truth available
.gtimage	array (struct)	ground truth info for this image *(see substructure below)*
.targettype	string	type of target the detector is trying to detect: {'wedge', 'truncated cone', 'cylindrical', 'torpedo', 'sphere', 'none' (bypasses ATR)}
.perfparams	struct	parameters required for the performance estimation code *(see substructure below)*
.heading	array (float)	heading of the vehicle (in radians)
.time	array (float)	timestamp (UTC)
.sensor	string	sensor ID

gtimage substructure:

Struct field	Data type	Description
.x, .y	arrays (int)	location of ground truth object (in pixels)
.side	string	side of vehicle where the ground truth object is located: {"port", "stbd"}
.num	array (int)	identifier for ground truth object
.fn	string	filename of image file/some other image ID in which this ground truth object is located

perfparams substructure (Through-the-sensor mode):

Struct field	Data type	Description
.height	array (float)	height of the vehicle at each ping in m
.depth	array (float)	depth of the vehicle at each ping in m
.maxrange	float	maximum range in m

OUTPUT

Performance estimation structure (perf_out):

Struct field	Data type	Description
.pdpc	matrix (float)	probability of detection and classification at each pixel (same size as input image)
.pfa	matrix (float)	probability of false alarm at pixel (same size as input image)
.A	float	average effective range (whole image)
.B	float	average pdpc (whole image)
.py	array (float)	average pdpc vs. range (for image)
.ATRstatus	char	stoplight performance indicator: 'r' = red (pdpc < .5 OR pfa > .5 OR number of positive contacts in current image > 10) 'y' = yellow (pdpc < .7 OR pfa > .3 OR number of positive contacts in current image > 5) 'g' = green (otherwise)

Contact structure:

Struct field	Data type	Description
.x, .y	ints	location of contact in the image in pixels (centroid)
.features	array (float)	features used to classify contact
.fn	string	filename of image file/some other image ID
.side	string	side of vehicle: {"PORT", "STBD"}
.hfsnippet	matrix (float)	area around contact in h.f. image (complex)
.bbsnippet	matrix (float)	area around contact in b.b. image (complex)
.gt	int	ground truth value of contact (if known): 1 = object really is a mine 0 = object really is not a mine empty = ground truth value unknown

Struct field	Data type	Description
.lat	float	latitude of contact (in degrees)
.long	float	longitude of contact (in degrees)
.class	int	1 = classified as relevant; 0 = classified as not relevant
.classconf	float	probability that classification of contact is correct (0 < .classconf < 1)
.groupnum	string	ID # of this contact's group; unique for each real object; many images may have objects with the same group #
.groupclass	int	1 = group classified as relevant 0 = group not classified as relevant
.groupclassconf	float	probability that classification of group is correct
.groupconf	float	probability that this contact belongs in this group (and represents the same object)
.grouplat	float	latitude of group (in degrees)
.grouplong	float	longitude of group (in degrees)
.groupcovmat	matrix (float)	group lat/long covariance matrix (2x2)
.detector	string	detector identifier
.featureset	string	feature set identifier
.classifier	string	classifier identifier
.contcorr	string	contact correlation identifier
.opfeedback	struct	operator feedback
.heading	float	heading of the vehicle (in radians)
.time	float	timestamp (UTC)
.alt	float	height of vehicle at contact ping
.hf_cres	float	high frequency image cross-track resolution in m

Struct field	Data type	Description
.hf_ares	float	high frequency image along-track resolution in m
.hf_cnum	float	high frequency image cross-track dimension in pixels
.hf_anum	float	high frequency image along-track dimension in pixels
.bb_cres	float	broadband image cross-track resolution in m
.bb_ares	float	broadband image along-track resolution in m
.bb_cnum	float	broadband image cross-track dimension in pixels
.bb_anum	float	broadband image along-track dimension in pixel
.veh_lats	array (float)	latitude of vehicle
.veh_longs	array (float)	longitude of vehicle
.veh_heights	array (float)	height of the vehicle at each ping in m
*.bg_snippet**	*matrix (float)*	*background snippet (complex)*
*.bg_offset**	*array (int)*	*vector offset indicating where the background snippet is located relative to the contact*
*.hfraw**	*matrix (float)*	*HF inverse image data (complex)*
*.bbraw**	*matrix (float)*	*BB inverse image data (complex)*
*.lb1raw**	*matrix (float)*	*LB1 raw data (complex)*
*.hfac**	*matrix (float)*	*HF acoustic color data (complex)*
*.bbac**	*matrix (float)*	*BB acoustic color data (complex)*
*.lb1ac**	*matrix*	*LB1 acoustic color data (complex)*

Struct field	Data type	Description
	(float)	

opfeedback substructure:

.opdisplay	int	operator display mode: 0 = don't show this contact 1 = show and confirm (likely a mine; operator **can** veto) 2 = show and ask (unsure; operator **must** respond)
.opconf	int	operator confidence feedback 1 = likely clutter 2 = less likely clutter 3 = unsure, could be either 4 = less likely a mine 5 = likely a mine