

Fuzzy Kansei Furniture Selection for Matlab 5

% Fuzzy Kansei Systems (furniture selection)

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Add the directory of FKsel and FkSel\Fig to the Matlab Path and

Run FKSel.m in the Matlab Command Window to start.

(The basic Matlab environment is sufficient, no special toolboxes are required)

Brief usage:

Give your requirements by selecting some of the upper “working” sliders (activating the corresponding checkbox) and adjusting them to the required value (the Kansai property name is written at their top). The best fitting furniture is appearing immediately on the upper picture (“working window”). The upper thin indicator sliders slide by slide the working sliders are indicating the Kansei parameters of the furniture in working window fetched from the actual Kansei user model. The leftmost “F” thin slider is indicating the fitness of the furniture in the working window to the user requirement. You can release or add any requirement by inactivating or activating its checkbox. You can use the next and previous buttons to see the next (previous) best fitting furniture by pressing the “Next” or “Previous” buttons.

Were you disagree with the evaluation fetched from the actual Kansei user model, you can copy the furniture in the working window to the editing window (bottom picture) by pushing the “Copy” button. The actual Kansei parameters of the furniture in the editing window are appearing in the same manner as it was introduced at the working furniture (on thin sliders slide by slide of the main editing (bottom) sliders). You can give your opinion by selecting some of the editing (bottom) sliders (by a mouse click on them) and adjusting them to your desired value. You can activate your opinion by pressing the “Ready” button. The same time, the actual user model is recalculated, and the indicator sliders are updated. You can see the actual state (approximated similarities of the actual user to the existing Kansei user models) on indicating sliders S1-S4 near by the editing window. You can modify the actual state directly by adjusting these sliders. You can leave the program by pressing the “Close” button.

Some publications related to this program:

Sz. Kovács, N. Kubota, K. Fujii and L.T. Kóczy: “Interpolative Fuzzy Reasoning and Fuzzy Automata in Kansei Technology”, Proceedings of the AFSS2000, the Fourth Asian Fuzzy Systems Symposium, May 31-June 3, Tsukuba, Japan, pp.335-340, (2000).

Sz. Kovács, N. Kubota, K. Fujii and L.T. Kóczy: “Behaviour based techniques in user adaptive Kansei technology”, To appear in the proceedings of the VSMM2000, 6th international conference on virtual systems and multimedia, October 4-6, Gifu, Japan, p.8, (2000).

Were you use any part of this program, please refer the source and some of these publications and send an e-mail to szkszilv@gold.uni-miskolc.hu about it.

The modules of the program (there are M.Files only):

buttgui.m: Button GUI
chgui.m: Checkbox GUI
DISTFCM.m: Distance measure in fuzzy c-mean clustering.
drawfpica.m: Draw the working picture and adjust the value display sliders
drawfpicb.m: Draw the picnumth picture and adjust the value display sliders
FCMVAL.m: FCM silmilarity values to the cluster centers of a given data
FKSel.m: Furniture Kansei Selection
gakansvl.m: Calculate the actual kansei value matrix
GKansA.m: Furniture Kansei Selection, generate the parameters of the fuzzy automata
GKansMC.m: Furniture Kansei Selection, generate the parameters of the fuzzy metacontrol
gakansval.m: Generate the kansei value matrix
gakansvm.m: Generate the multi usertype kansei value matrix
GSCLFUNC.m: Generate the linear scaling function SCF
GSCNFUNC.m: Generate the nonlinear scaling function SCF
GVAGENV.m: Generate vague environment VE
KansA.m: Furniture Kansei Selection, Calculate the new User State
kansdist.m: Calculate the kansei distances matrix
KansA.m: Furniture Kansei Selection, combining the different conclusions
kanspar.m: Definition of the kansei parameter sets
kanssim.m: Calculate the kansei similarities matrix
RULEDIST.m: Calculate the distances of the observation from the rule antecedents
slagui.m: Working Picture Sliders GUI
slbgui.m: Editing Picture Sliders GUI
slbusgui.m: Editing Picture User State Value Sliders
vagconcl.m: Calculate the conclusion from the observation and the rulebase
VAGDIST.m: Calculate the distance of two points in vague environment
VALVAG.m: Value of a vague point VP

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