Fuzzy Set Theory in Computer Vision: Example 7

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FUZZ-IEEE, July 2017
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- The purpose is to discuss a few details related to “setting up” the DLs so they can be fused with the FI.
Fusion of deep learners

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  ▶ Combination thereof
DIDO fusion of deep learners
Fusion of deep learners

**DIDO fusion of deep learners**

![Diagram of DIDO fusion of deep learners]

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DIDO fusion of deep learners

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  - Point being, you often have to do (manual or use an ontology) some house cleaning; 1-to-1, many-to-1, 1-to-many mappings
DIDO fusion of deep learners

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Scaling

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- Softmax function or normalized exponential function is a generalization of the logistic function that “squashes” a K-dimensional vector $z$ of arbitrary real values to a K-dimensional vector $v(z)$ of real values such that

$$v_k(z) = \frac{e^{z_k}}{\sum_{k=1}^{K} e^{z_k}},$$

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DIDO fusion of deep learners
**DIDO fusion**

- Refer to our earlier slides
  - Imputation from densities, e.g., Sugeno $\lambda$-FM, where the densities are given by the accuracy of each deep learner
  - Learn the full $\mu$, using something like the QP extended to vectors versus scalars by using a $p$-norm of the classification vector relative to a ground truth vector

Existing article that uses FI for DL fusion

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