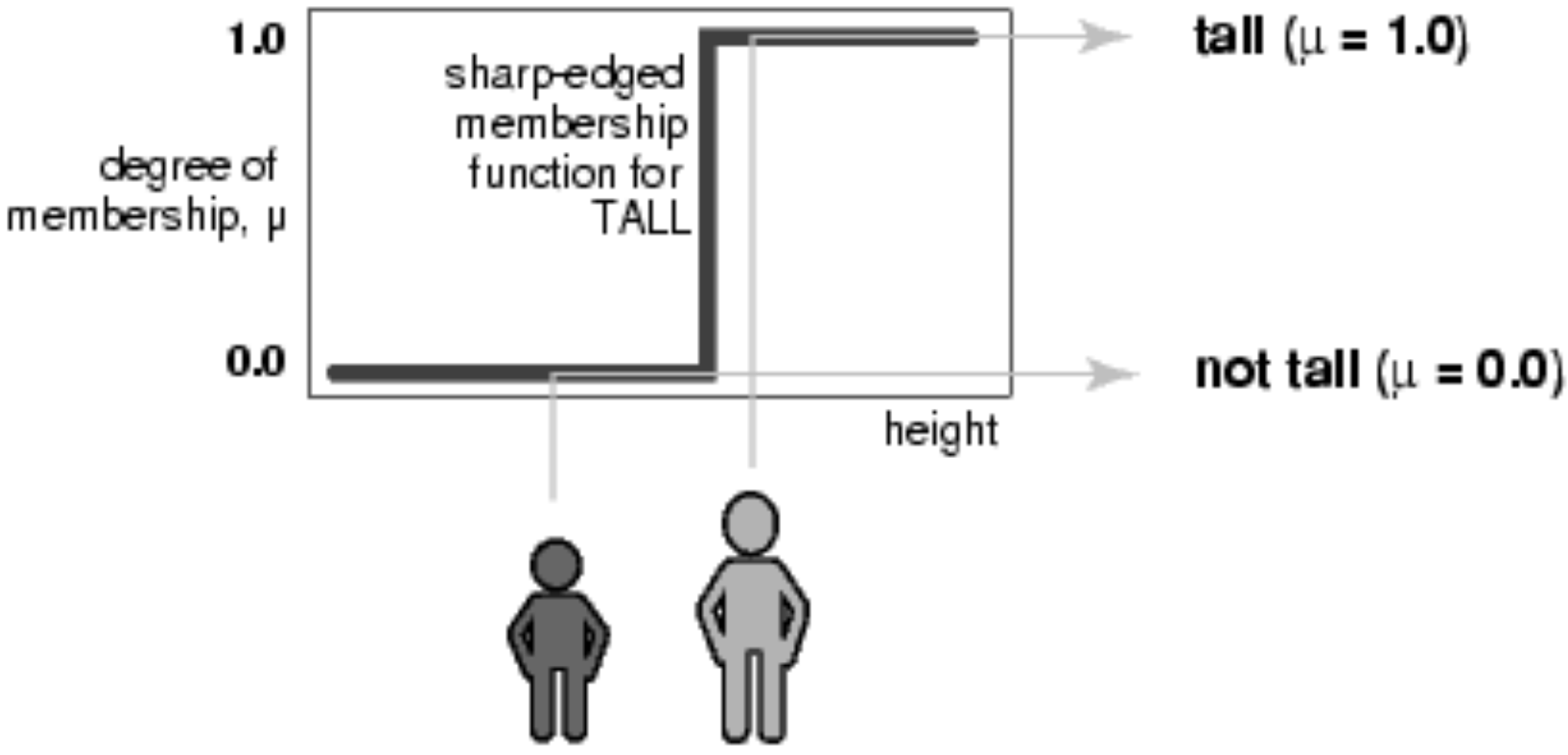
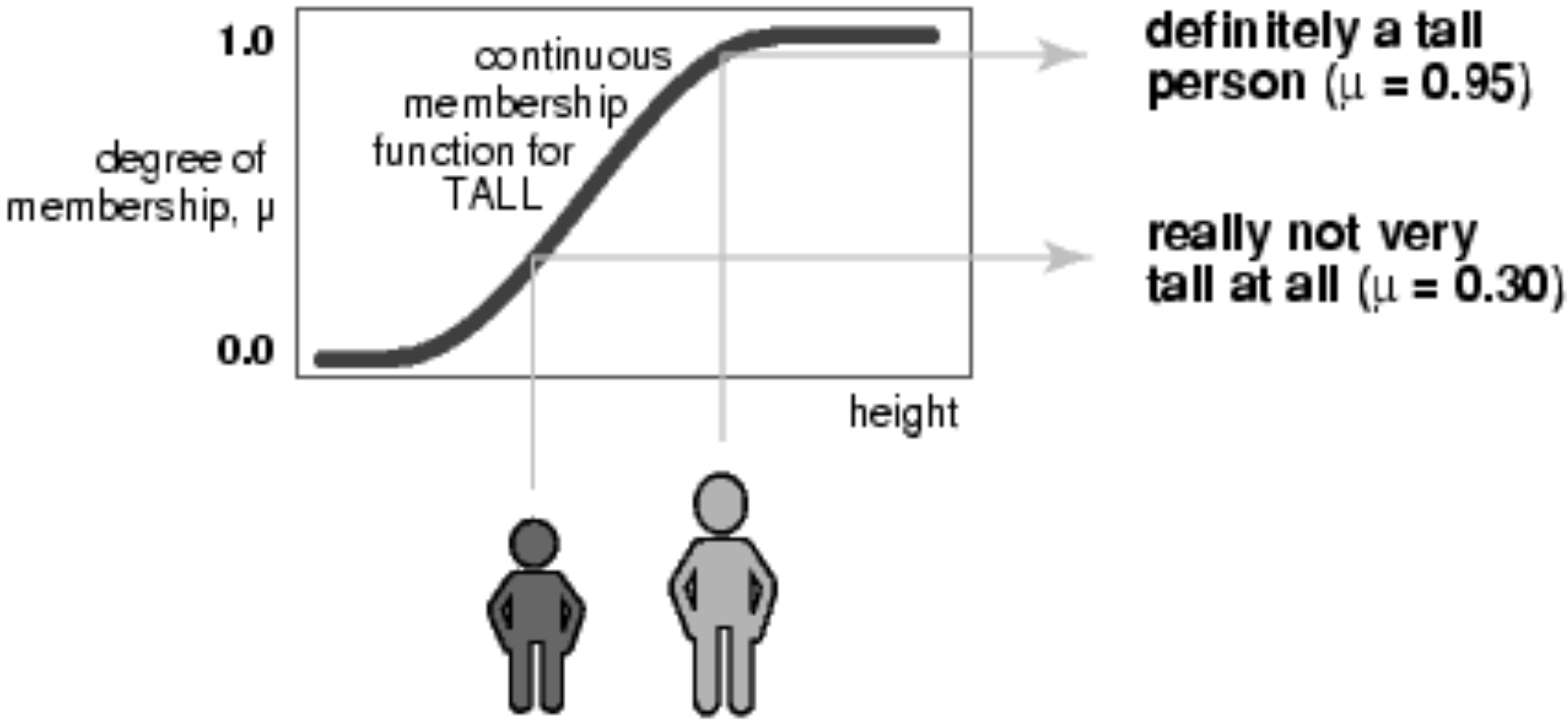
Alternative modelling approaches

School of Geosciences

Fuzzy logic is an approach to computing based on "degrees of truth" rather than the usual "true or false" (1 or 0) Boolean logic on which the modern computer is based.

Fuzzy logic includes 0 and 1 as extreme cases of truth (or "the state of matters" or "fact") but also includes the various states of truth in between so that, for example, the result of a comparison between two things could be not "tall" or "short" but ".38 of tallness."


1.0
degree of membership, μ
0.0
sharp-edged membership function for TALL
height
tall (μ = 1.0)
not tall (μ = 0.0)


1.0
degree of membership, μ
0.0
continuous membership function for TALL
height
definitely a tall person (μ = 0.95)
really not very tall at all (μ = 0.30)

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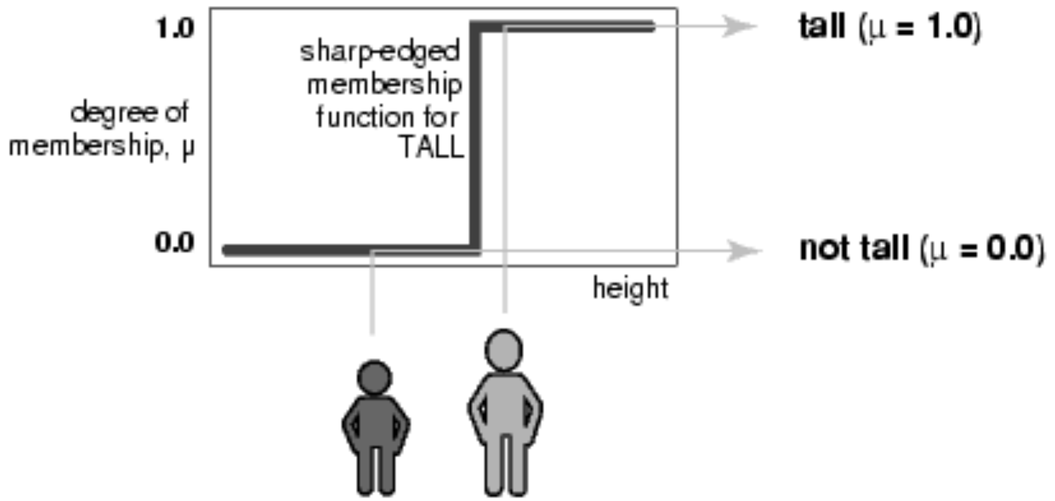

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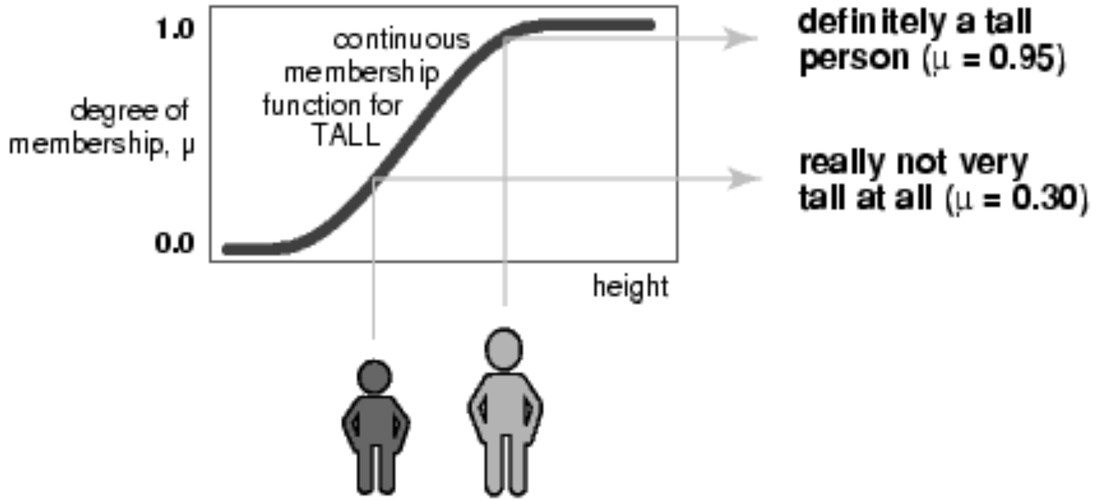

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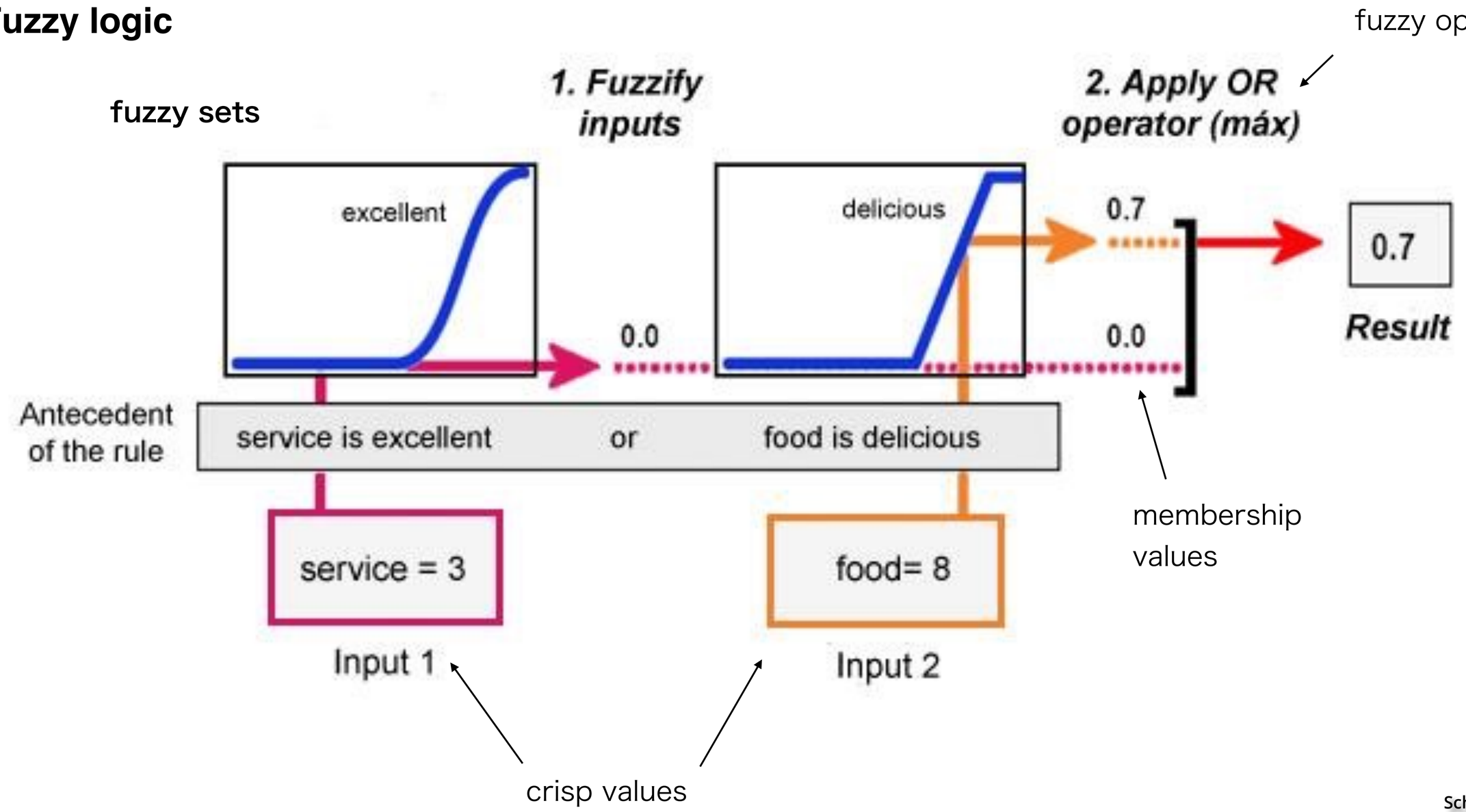
Fuzzy logic