Cluzzy-0.1.0.0: Fuzzy logic hardware design in CλaSH. | Contents | Index

Rules

Safe Haskell	None
Language	Haskell2010

This module defines the data structures, helper functions and declarations for the fuzzy logic relations which will be used in out FLC.

Documentation

`data` **`Action`**

`Action` is the type representing the discreet set of action we might take.

Constructors

`HardSlowdown`

`Slowdown`

`NoOP`

`Speedup`

`HardSpeedup`

⊟ Instances

`Bounded Action`

`Enum Action`

`Eq Action`

`Ord Action`

`Show Action`

`data` **`Speed`**

`Speed` is the type representing the discreet set of possible speed "ratings".

Constructors

`VerySlow`

`Slow`

`Normal`

`Fast`

`VeryFast`

⊟ Instances

`Bounded Speed`

`Enum Speed`

`Eq Speed`

`Ord Speed`

`Show Speed`

`data` **`Distance`**

`Distance` represents the type of the discreet set of relative distances to the destination.

Constructors

```
VeryClose
Close
Halfway
Far
VeryFar
```

Instances

```
Bounded Distance
Enum Distance
Eq Distance
Ord Distance
Show Distance
```

```haskell
type Conclusion = Map FuzzySet Action
```

`Conclusion` is a mapping of `FuzzySet`s to `Action`s.

```haskell
conclusion :: Reader Config Conclusion
```

`conclusion` is the default conclusion. I.e. `conclusion` == `zip` [`Action`s] Conclusion `Rule` It relies on the "totalSpace", "conclusionSpacing" and "conclusionDelta" Config keys.

```haskell
type TermLimits = [(Int, Int)]
```

`TermLimits` is simply the list of upper and lower limit tuples representing a the terms in a `Rule`.

```haskell
termLimiter :: Reader Config ([a] -> TermLimits)
```

`termLimiter` takes a list of terms and returns their `TermLimits`. It relies on the "ruleSpacing" configuration option.

```haskell
type Rule = [FuzzySet]
```

`Rule` is a list of the degrees of activation of each premise. (i.e. foldr unionT rule == fuzzy logic rule)

```haskell
mkRuler :: Reader Config (TermLimits -> Rule)
```

`mkRuler` takes a list of term limits and returns the associated `Rule`. It relies on the config keys `totalSpace`, `ruleDelta`.

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