

Композиция нечетких отношений

$$\mathbb{M} = \left\{ \begin{array}{c} \text{Pink} \\ \text{Orange} \end{array} \right\}$$

$$\mathbb{C} = \left\{ \begin{array}{c} \text{Blue} \\ \text{Red} \\ \text{Green} \\ \text{Purple} \end{array} \right\}$$

$$\mathbb{H} = \left\{ \begin{array}{c} \text{Yellow} \\ \text{Red} \\ \text{White} \end{array} \right\}$$

$$\rho \tilde{\mathbb{C}} \times \mathbb{M}$$

ρ	Orange	Pink
Blue	0.8	0.8
Green	0.8	0.2
Red	0.2	0.8
Purple	0.2	0.2


$$\sigma \tilde{\mathbb{M}} \times \mathbb{H}$$






σ	Yellow	Red	White
Orange	0.5	0.7	0.3
Pink	0.5	0.3	0.7

$$\tau = \rho \circ \sigma, \tau \tilde{\mathbb{C}} \times \mathbb{H}$$

τ	Yellow	Red	White
Blue			
Green			
Red			
Purple			

Композиция нечетких отношений






ρ		
	0.8	0.8
	0.8	0.2
	0.2	0.8
	0.2	0.2

σ			
	0.5	0.7	0.3
	0.5	0.3	0.7

$$\tau = \rho \circ \sigma$$

Композиция нечетких отношений

ρ		
	0.8	0.8
	0.8	0.2
	0.2	0.8
	0.2	0.2






σ			
	0.5	0.7	0.3
	0.5	0.3	0.7

$$\tau = \rho \circ \sigma$$

$$\mu_{\tau}(c, h) = \max_{m \in \mathbb{M}} [\mu_{\rho}(c, m) \mu_{\sigma}(m, h)]$$

Композиция нечетких отношений

ρ		
	0.8	0.8
	0.8	0.2
	0.2	0.8
	0.2	0.2

σ			
	0.5	0.7	0.3
	0.5	0.3	0.7







$$\tau = \rho \circ \sigma$$






$$\mu_{\tau}(c, h) = \max_{m \in \mathbb{M}} [\mu_{\rho}(c, m) \mu_{\sigma}(m, h)]$$

$$\mu_{\tau} \left(\begin{array}{c} \text{Golem} \\ \text{Golem} \end{array}, \begin{array}{c} \text{Golem} \\ \text{Golem} \end{array} \right) =$$

$$\max [0.8 \cdot 0.7, 0.2 \cdot 0.3] = 0.56$$

Композиция нечетких отношений

ρ		
	0.8	0.8
	0.8	0.2
	0.2	0.8
	0.2	0.2

σ			
	0.5	0.7	0.3
	0.5	0.3	0.7

$$\tau = \rho \circ \sigma$$

$$\mu_{\tau}(c, h) = \max_{m \in \mathbb{M}} [\mu_{\rho}(c, m) \mu_{\sigma}(m, h)]$$







$$\mu_{\tau} \left(\begin{array}{c} \text{Golem} \\ \text{Golem} \end{array}, \begin{array}{c} \text{Golem} \\ \text{Golem} \end{array} \right) =$$






$$\max [0.8 \cdot 0.7, 0.2 \cdot 0.3] = 0.56$$

$$\mu_{\tau} \left(\begin{array}{c} \text{Golem} \\ \text{Golem} \end{array}, \begin{array}{c} \text{Golem} \\ \text{Golem} \end{array} \right) =$$

$$\max [0.8 \cdot 0.3, 0.2 \cdot 0.7] = 0.24$$

Композиция нечетких отношений

ρ		
	0.8	0.8
	0.8	0.2
	0.2	0.8
	0.2	0.2







σ			
	0.5	0.7	0.3
	0.5	0.3	0.7






$$\tau = \rho \circ \sigma$$

$$\mu_{\tau}(c, h) = \max_{m \in \mathbb{M}} [\mu_{\rho}(c, m) \mu_{\sigma}(m, h)]$$

τ			
			
			
			
			

Композиция нечетких отношений

ρ		
	0.8	0.8
	0.8	0.2
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σ			
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	0.5	0.3	0.7






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$$\mu_{\tau}(c, h) = \max_{m \in \mathbb{M}} [\mu_{\rho}(c, m) \mu_{\sigma}(m, h)]$$

τ			
			
			
			
			







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ρ		
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	0.8	0.2
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	0.5	0.3	0.7






$$\tau = \rho \circ \sigma$$

$$\mu_{\tau}(c, h) = \max_{m \in \mathbb{M}} [\mu_{\rho}(c, m) \mu_{\sigma}(m, h)]$$

τ			
	0.4		
			
			
			








Композиция нечетких отношений

ρ		
	0.8	0.8
	0.8	0.2
	0.2	0.8
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σ			
	0.5	0.7	0.3
	0.5	0.3	0.7






$$\tau = \rho \circ \sigma$$

$$\mu_{\tau}(c, h) = \max_{m \in \mathbb{M}} [\mu_{\rho}(c, m) \mu_{\sigma}(m, h)]$$

τ			
	0.4	0.56	
			
			
			








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ρ		
	0.8	0.8
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$$\tau = \rho \circ \sigma$$

$$\mu_{\tau}(c, h) = \max_{m \in \mathbb{M}} [\mu_{\rho}(c, m) \mu_{\sigma}(m, h)]$$

τ			
	0.4	0.56	0.56
			
			
			








Композиция нечетких отношений

ρ		
	0.8	0.8
	0.8	0.2
	0.2	0.8
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σ			
	0.5	0.7	0.3
	0.5	0.3	0.7






$$\tau = \rho \circ \sigma$$

$$\mu_{\tau}(c, h) = \max_{m \in \mathbb{M}} [\mu_{\rho}(c, m) \mu_{\sigma}(m, h)]$$

τ			
	0.4	0.56	0.56
	0.4	0.58	0.24
			
			








Композиция нечетких отношений

ρ		
	0.8	0.8
	0.8	0.2
	0.2	0.8
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	0.5	0.7	0.3
	0.5	0.3	0.7






$$\tau = \rho \circ \sigma$$

$$\mu_{\tau}(c, h) = \max_{m \in \mathbb{M}} [\mu_{\rho}(c, m) \mu_{\sigma}(m, h)]$$

τ			
	0.4	0.56	0.56
	0.4	0.58	0.24
	0.4	0.24	0.58
			








Композиция нечетких отношений

ρ		
	0.8	0.8
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$$\tau = \rho \circ \sigma$$

$$\mu_{\tau}(c, h) = \max_{m \in \mathbb{M}} [\mu_{\rho}(c, m) \mu_{\sigma}(m, h)]$$

τ			
	0.4	0.56	0.56
	0.4	0.58	0.24
	0.4	0.24	0.58
	0.1	0.14	0.14