

Supplementary Material for Unsupervised Relationship Modeling: Full Descriptor List with External Labels and Model Precision

| RMN | | | HTMM | | |
|----------------|-----|---|-----------|-----|--|
| Label | MP | Nearest Neighbors | Label | MP | Most Probable Words |
| outdoors | 1.0 | trail trails hillside grassy slopes | crime | 1.0 | blood knife pain legs steal |
| violence | 1.0 | grenades grenade guns hammers bullets | food | 1.0 | kitchen mouth glass food bread |
| education | 1.0 | teaching graduate year teacher attended | violence | 1.0 | sword shot blood shouted swung |
| love | 1.0 | love delightful happiness enjoyed enjoyable | boats | 1.0 | ship boat captain deck crew |
| buildings | 1.0 | balconies courtyard overlooking terrace buildings | outdoors | 1.0 | stone rock path darkness desert |
| sadness | 1.0 | regretful rueful pity pained despondent | routine | 1.0 | school year week business dollars |
| action | 1.0 | flipped crashed caved pushed scooted | indoors | 0.9 | kitchen bathroom bedroom clothes shirt |
| money | 1.0 | cash sales rental services dollars | furniture | 0.9 | glass desk paper walls chair |
| murder | 1.0 | autopsy arrested homicide murdered suspected | sex | 0.9 | mouth lips skin kiss neck |
| food | 1.0 | sauce juice butter cheese vinegar | food | 0.9 | coffee food glass kitchen drink |
| boats | 1.0 | sail sailing boat sails cruise | clothing | 0.8 | shirt blue smile dress wore |
| fantasy | 1.0 | cosmic worlds phenomena realm universe | outdoors | 0.8 | horse horses trees river rode |
| politics | 1.0 | political ethics leadership governing fundamental | royalty | 0.7 | king death shall speak lady |
| military | 1.0 | saluted commander lieutenant summoned commanded | love | 0.7 | love tears smiled dear please |
| religion | 1.0 | jesus mary christ eden william | buildings | 0.7 | building doors windows stepped onto |
| color | 1.0 | glow shimmer luminous tint violet | boats | 0.6 | surface below boat deck metal |
| shouting | 1.0 | screaming yelling shouting loud screeching | informal | 0.6 | hell okay sorry mouth damn |
| writing | 0.9 | text pasted printed print handwritten | police | 0.6 | desk number police computer file |
| affection | 0.9 | patted chuckled smiled sighed nuzzled | parental | 0.5 | love baby music sleep school |
| clothing | 0.9 | wardrobe linen bathrobe clothes pajamas | business | 0.4 | shall suppose business police doctor |
| sex | 0.9 | crotch thighs caressing buttocks licking | death | 0.4 | love death truth power kill |
| suffering | 0.8 | suffering fear nightmares battling suffer | violence | 0.4 | sword blood stone pain wind |
| formal | 0.8 | request notified announcement please confirm | fantasy | 0.4 | smiled kill love vampire dragon magician |
| royalty | 0.7 | throne crowned risen represents bestowed | politics | 0.3 | american country year week government |
| organizational | 0.7 | systems depend beneficial components specific | love | 0.3 | however dear wife happy husband |
| action | 0.6 | forearm lever angled blade one-handed | journey | 0.2 | truck seat hell yeah drive |
| outdoors | 0.5 | glistened mists rivulets underbrush acrid | fantasy | 0.2 | dwarf sergeant added watch magic |
| informal | 0.4 | kinda damn heck guess shitty | military | 0.1 | ship captain lucky hour general |
| moodiness | 0.3 | glumly snickered quizzically guiltily morosely | fantasy | 0.0 | agreed magician dragon castle talent |
| worship | 0.1 | toil pray devote yourselves gather | scifi | 0.0 | suppose earth robots computer certain |