

# Solutions to Homework 2.2

August 13, 2013

## Goal

Build decision tree models on different sets of features from the task of Word Sense Disambiguation. For each of them, get its performance on both training and test data.

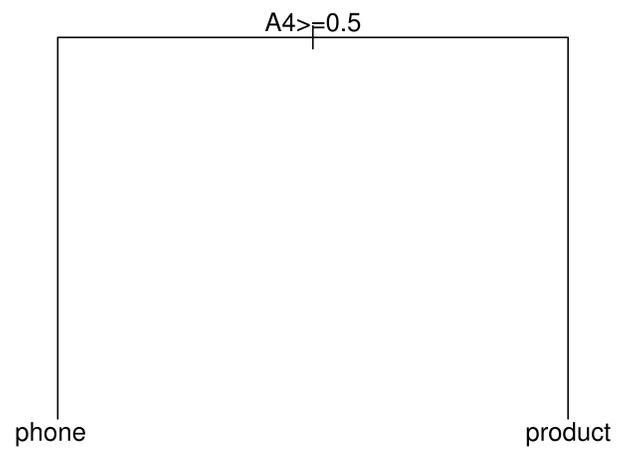
## Performance

features used	trained model	data set	performance
$A_4$	M1		
		train	57.37
		test	57.95
$A_1, \dots, A_{11}$	M2		
		train	63.43
		test	63.64
$A_2, A_3, A_4, \dots, A_9$	M3		
		train	63.43
		test	63.64
$A_1, A_6, A_7$	M4		
		train	54.32
		test	58.24
$A_1, A_{11}$	M5		
		train	52.77
		test	55.40

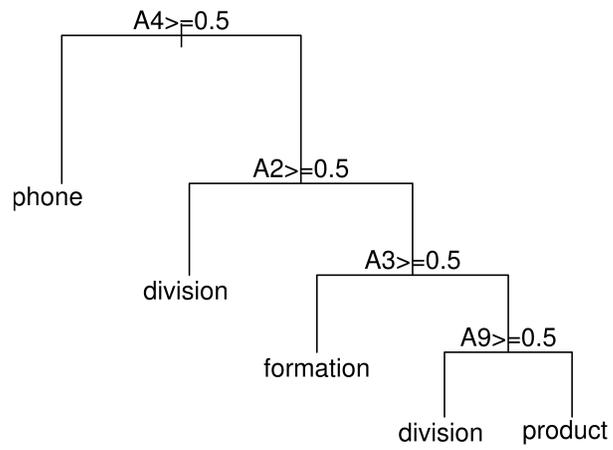
Table 1: Summary of five trained models

## Visualization of trained decision trees

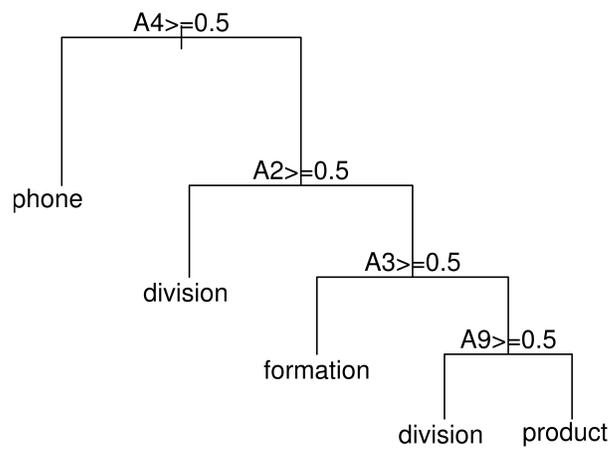
**WSD task: decision tree trained on feature A4**



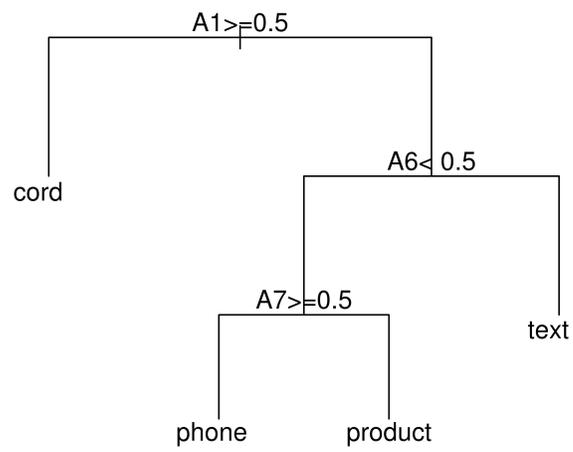
**WSD task: decision tree trained on A1,...,A11**



**WSD task: decision tree trained on A2, A3, A4, A9**



**WSD task: decision tree trained on A1, A6, A7**



**WSD task: decision tree trained on A1 and A11**

