

Probabilistic Grammar Conversion

Original Grammar

Chomsky Normal Form

$S \rightarrow NP VP$	0.8	$S \rightarrow NP VP$	0.8
$S \rightarrow Aux NP VP$	0.1	$S \rightarrow X1 VP$	0.1
		$X1 \rightarrow Aux NP$	1.0
$S \rightarrow VP$	0.1	$S \rightarrow \text{book} \mid \text{include} \mid \text{prefer}$	
		0.01 0.004 0.006	
		$S \rightarrow Verb NP$	0.05
		$S \rightarrow VP PP$	0.03
$NP \rightarrow Pronoun$	0.2	$NP \rightarrow I \mid he \mid she \mid me$	
		0.1 0.02 0.02 0.06	
$NP \rightarrow Proper-Noun$	0.2	$NP \rightarrow \text{Houston} \mid \text{NWA}$	
		0.16 .04	
$NP \rightarrow Det Nominal$	0.6	$NP \rightarrow Det Nominal$	0.6
$Nominal \rightarrow Noun$	0.3	$Nominal \rightarrow \text{book} \mid \text{flight} \mid \text{meal} \mid \text{money}$	
		0.03 0.15 0.06 0.06	
$Nominal \rightarrow Nominal Noun$	0.2	$Nominal \rightarrow Nominal Noun$	0.2
$Nominal \rightarrow Nominal PP$	0.5	$Nominal \rightarrow Nominal PP$	0.5
$VP \rightarrow Verb$	0.2	$VP \rightarrow \text{book} \mid \text{include} \mid \text{prefer}$	
		0.1 0.04 0.06	
$VP \rightarrow Verb NP$	0.5	$VP \rightarrow Verb NP$	0.5
$VP \rightarrow VP PP$	0.3	$VP \rightarrow VP PP$	0.3
$PP \rightarrow Prep NP$	1.0	$PP \rightarrow Prep NP$	1.0

The Lexicon

- $Det \rightarrow \text{the} \mid \text{a} \mid \text{that} \mid \text{this}$
0.6 0.2 0.1 0.1
- $Noun \rightarrow \text{book} \mid \text{flight} \mid \text{meal} \mid \text{money}$
0.1 0.5 0.2 0.2
- $Verb \rightarrow \text{book} \mid \text{include} \mid \text{prefer}$
0.5 0.2 0.3
- $Pronoun \rightarrow I \mid he \mid she \mid me$
0.5 0.1 0.1 0.3
- $Proper-Noun \rightarrow \text{Houston} \mid \text{NWA}$
0.8 0.2
- $Aux \rightarrow \text{does}$ 1.0
- $Prep \rightarrow \text{from} \mid \text{to} \mid \text{on} \mid \text{near} \mid \text{through}$
0.25 0.25 0.1 0.2 0.2