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University of Amsterdam (UvA)

Project AI, January 2014

Doubling DOP*

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Data Oriented Parsing

Bias and Consistency

Double-DOP and DOP*: a

comparison

DOUBLE-DOP DOP*

Comparison Experiments

Result

Analyzing grammars
Parsing Performance

ummarv

Outline

Data Oriented Parsing

Introduction to DOP Bias and Consistency

Double-DOP and DOP*: a comparison

Introduction to Double-DOP and DOP* Comparison Experiments

Results

Analyzing grammars Parsing Performance

Doubling DOP*

Kruit, Veldhoen

Data Oriented Parsing

Introduction to DOP Bias and Consistency

Double-DOP and DOP*: a

Introduction

Double-DOP and DOP*
Comparison

Experiment

Result

Analyzing grammars
Parsing Performance

ummarv

Introduction to DOP Bias and Consistency

Double-DOP and DOP*: a

Introduction Double-DOP

DOP*
Comparison

Experimen

Result

Analyzing grammars

Summarv

Data Oriented Parsing Introduction to DOP

Bias and Consistency

Double-DOP and DOP*: a comparison

Introduction to Double-DOP and DOP

Comparisor

Experiments

Results

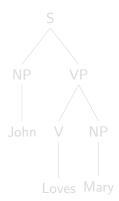
Analyzing grammars
Parsing Performance

Parsing

► input: sentence

John Loves Mary

output: constituent tree



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Data Oriented Parsing

Introduction to DOP Bias and Consistency

Double-DOP and DOP*: a

comparison

Double-DOP DOP*

Comparison Experiments

Resul

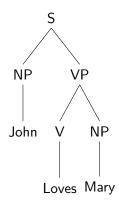
Analyzing grammars
Parsing Performance

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Data Oriented Parsing

Introduction to DOP Bias and Consistency

Double-DOP and DOP*: a

comparison

Double-DOP DOP*

Comparison Experiments

Resul

Analyzing grammars
Parsing Performance

Data Oriented Parsing

Introduction to DOP Bias and Consistency

Double-DOP and DOP*: a

Introduction

Double-DOP and DOP*
Comparison

Experime

Result

Analyzing grammars

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A grammar describes:

- how trees can be built
 - CFG's elementary rules
 - ► TSG's larger units: fragments
- how likely constructions are: probabilistic grammars
 - ► PCFG's independence
 - TSG's derivations

Bias and Consistency

Double-DOP and

Introduction Double-DOP DOP*

Comparison

Experimer

Resul

Analyzing grammars

Summary

Data Oriented Parsing

Introduction to DOP

Bias and Consistency

Double-DOP and DOP*: a comparison

Introduction to Double-DOP and DOP

Comparisor

Experiments

Results

Analyzing grammars
Parsing Performance

Title

Doubling DOP*

Kruit, Veldhoen

Data Oriented

Bias and Consistency

Double-DOP and DOP*: a

Introduction to Double-DOP a DOP*

Comparison Experiments

Resul

Analyzing grammars
Parsing Performance

Introduction to DOP Bias and Consistency

Double-DOP and DOP*: a

comparison
Introduction to
Double-DOP and

DODP*
Comparison

Exper.

Resul

Analyzing grammars

Summary

Data Oriented Parsing Introduction to DOP Bias and Consistency

Double-DOP and DOP*: a comparison Introduction to Double-DOP and DOP*

Comparison Experiments

Results

Analyzing grammars
Parsing Performance

Double-DOP

Extraction: Maximal Overlap

Estimation: relative frequency

► Coverage: PCFG rules

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Data Oriented Parsing

Bias and Consistency

Double-DOP and DOP*: a

comparison
Introduction to
Double-DQP and

DOP*
Comparison

Comparison Experiments

Resul

Analyzing grammars

Kruit, Veldhoen

Data Oriented Parsing

Bias and Consistency

Double-DOP and DOP*: a comparison

Introduction to Double-DOP and DOP*

Comparison Experiments

Results

Analyzing grammars

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► Held-out estimation - HC and EC

Extraction: Shortest derivations

► Estimation: relative frequency in shortest derivations

Coverage: smoothing PCFG rules with probability p_{unkn}

Double-DOP and

Comparison

Comparison

Double-DOP and DOP*: a comparison

Comparison

- Shortest derivations or Maximal overlap
- Held-out estimation or one vs. the rest.

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Data Oriented Parsing

Bias and Consistency

Double-DOP and DOP*: a

Introduction to
Double-DOP and

Comparison Experiments

Recult

Analyzing grammars

Experiments

Double-DOP and DOP*: a comparison

Experiments

Analyzing grammars

Results

Analyzing grammars

Maximal overlap ↔ shortest derivation

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Split \leftrightarrow one vs. the rest

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Bias and Consistency

Double-DOP and

Introduction t Double-DOP

Comparison Experiments

Result

Analyzing grammars Parsing Performance

Parsing Performance

Results

Parsing Performance

F1 scores

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Data Oriented Parsing

Bias and Consistency

Double-DOP and DOP*: a

omparison

DOP* Comparison

Comparison Experiments

Result

Analyzing grammars Parsing Performance

Double-DOP and DOP*: a

comparison

Double-DOP and DOP*

Comparison Experiments

Results

Analyzing grammars

Summary

lines.

- ► Something you haven't solved.
- ▶ Something else you haven't solved.

► Outlook

The first main message of your talk in one or two lines.

► The second main message of your talk in one or two

Perhaps a third message, but not more than that.

4 D > 4 P > 4 B > 4 B > B = 4900