

DEPARTMENT OF COMPUTER SCIENCE  
AND MATHEMATICS

UNIVERSITY OF APPLIED SCIENCES MUNICH

Master's Thesis in Computer Science

# **Interactive Segmentation Methods**

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## **Interactive Segmentation Methods**

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I confirm that this master's thesis in computer science is my own work and I have documented all sources and material used.

Munich, Submission date

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## Acknowledgments

# Zusammenfassung

1. Introductions
  - a) DL in Industry
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2. Basics
  - a) ML, DL, CNN
  - b) Semantic Segmentation (and IoU)
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3. Methods
  - a) IOG
  - b) Extreme Points
4. Benchmark
  - a) Motivation and structure of the Benchmark
  - b) Applied Methods
  - c) Evaluation (or put Evaluation as own chapter)
5. Conclusion

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# 1 Introduction

## 1.1 Section

Citation test [Lam94] [Zha+20].

### 1.1.1 Subsection

See Tabelle 2.3, Abbildung 1.1, Abbildung 2.2, Abbildung 1.3.

Tabelle 1.1: An example for a simple table.

A	B	C	D
1	2	1	2
2	3	2	3



Abbildung 1.1: An example for a simple drawing.

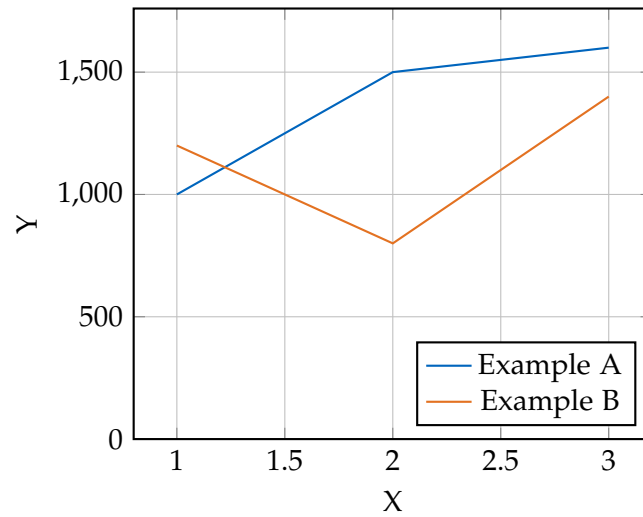


Abbildung 1.2: An example for a simple plot.

```
SELECT * FROM tbl WHERE tbl.str = "str"
```

Abbildung 1.3: An example for a source code listing.



## 2 Basics

### 2.1 ML, DL, CNNs

Citation test [Lam94] [Zha+20].

#### 2.1.1 Subsection

See Tabelle 2.2, Abbildung 2.7, Abbildung 2.8, Abbildung 2.9.

Tabelle 2.1: An example for a simple table.

A	B	C	D
1	2	1	2
2	3	2	3

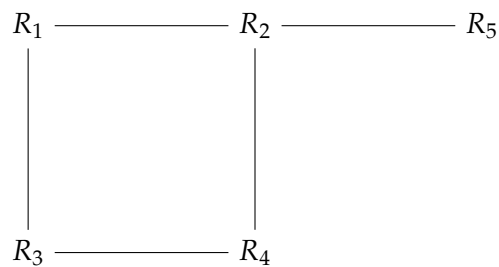


Abbildung 2.1: An example for a simple drawing.

### 2.2 Semantic Segmentation

Citation test [Lam94] [Zha+20].

#### 2.2.1 Subsection

See Tabelle 2.2, Abbildung 2.7, Abbildung 2.8, Abbildung 2.9.

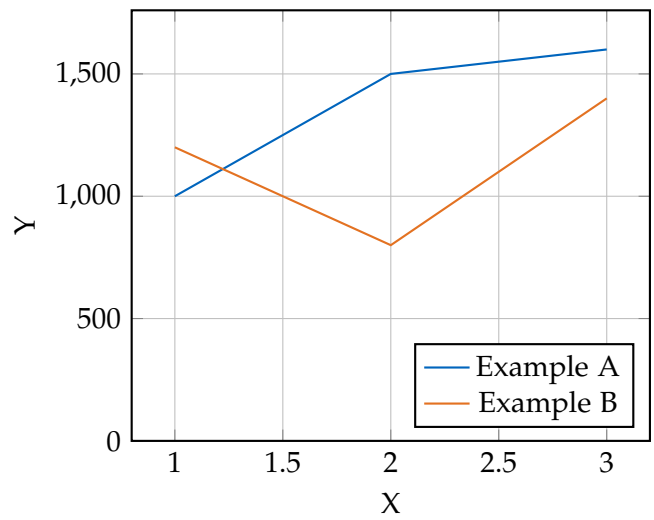


Abbildung 2.2: An example for a simple plot.

```
SELECT * FROM tbl WHERE tbl.str = "str"
```

Abbildung 2.3: An example for a source code listing.

Tabelle 2.2: An example for a simple table.

A	B	C	D
1	2	1	2
2	3	2	3

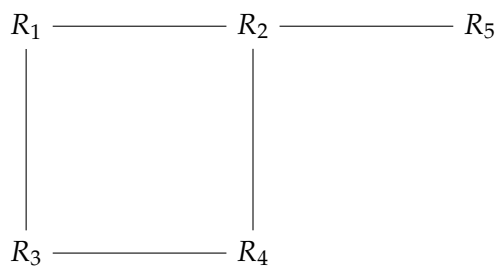


Abbildung 2.4: An example for a simple drawing.

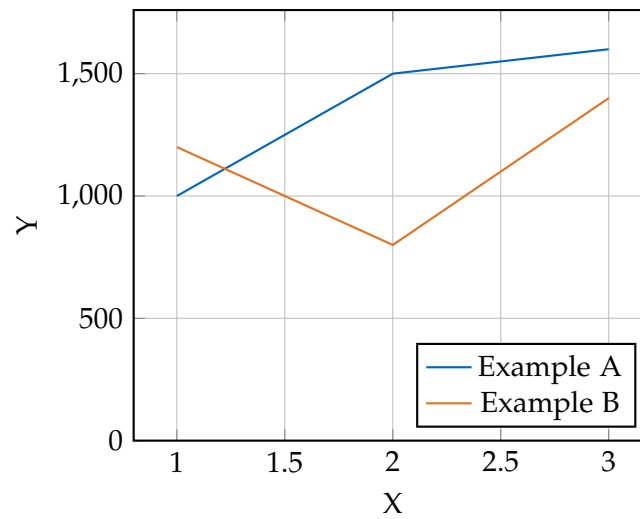


Abbildung 2.5: An example for a simple plot.

```
SELECT * FROM tbl WHERE tbl.str = "str"
```

Abbildung 2.6: An example for a source code listing.

## 2.3 Interactive Semantic Segmentation

Citation test [Lam94] [Zha+20].

### 2.3.1 Subsection

See Tabelle 2.2, Abbildung 2.7, Abbildung 2.8, Abbildung 2.9.

Tabelle 2.3: An example for a simple table.

A	B	C	D
1	2	1	2
2	3	2	3

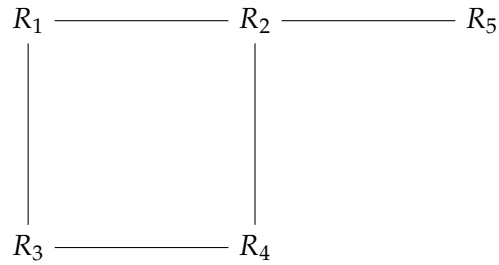


Abbildung 2.7: An example for a simple drawing.

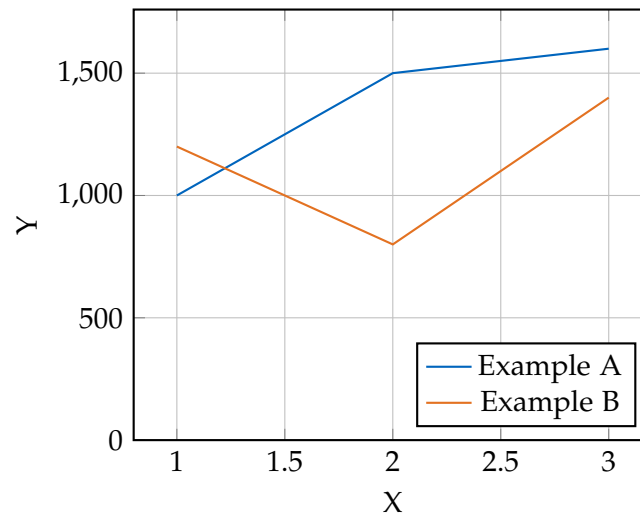


Abbildung 2.8: An example for a simple plot.

```
SELECT * FROM tbl WHERE tbl.str = "str"
```

Abbildung 2.9: An example for a source code listing.

# 3 Methods

## 3.1 IOG

Citation test [Lam94] [Zha+20].

### 3.1.1 Subsection

See Tabelle 3.2, Abbildung 3.4, Abbildung 3.5, Abbildung 3.6.

Tabelle 3.1: An example for a simple table.

A	B	C	D
1	2	1	2
2	3	2	3

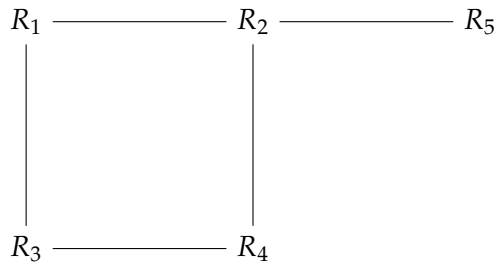


Abbildung 3.1: An example for a simple drawing.

## 3.2 Extreme Points

Citation test [Lam94] [Zha+20].

### 3.2.1 Subsection

See Tabelle 3.2, Abbildung 3.4, Abbildung 3.5, Abbildung 3.6.

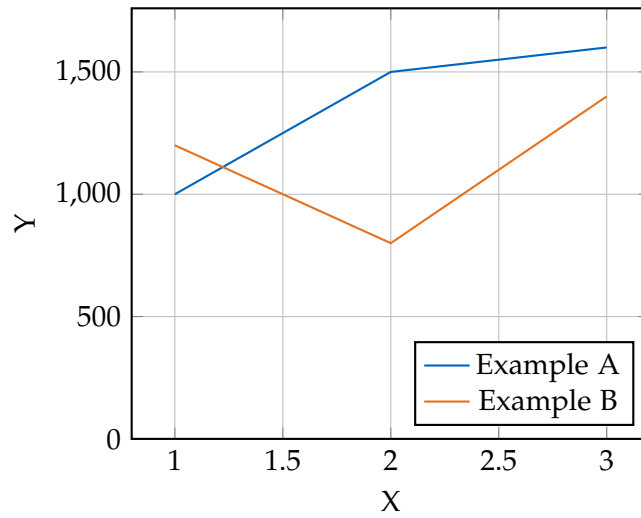


Abbildung 3.2: An example for a simple plot.

```
SELECT * FROM tbl WHERE tbl.str = "str"
```

Abbildung 3.3: An example for a source code listing.

Tabelle 3.2: An example for a simple table.

A	B	C	D
1	2	1	2
2	3	2	3

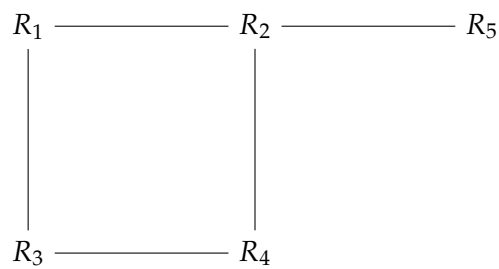


Abbildung 3.4: An example for a simple drawing.

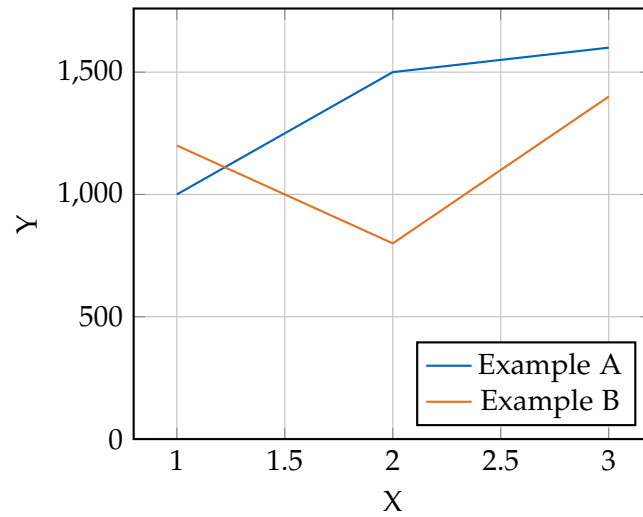


Abbildung 3.5: An example for a simple plot.

```
SELECT * FROM tbl WHERE tbl.str = "str"
```

Abbildung 3.6: An example for a source code listing.

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# Literatur

- [Lam94] L. Lamport. *LaTeX : A Documentation Preparation System User's Guide and Reference Manual*. Addison-Wesley Professional, 1994.
- [Zha+20] S. Zhang, J. H. Liew, Y. Wei, S. Wei und Y. Zhao. „Interactive Object Segmentation With Inside-Outside Guidance“. In: *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*. 2020, S. 12234–12244.