St. Pölten University of Applied Sciences

/ medien & digitale technologien

/fh/// st.pölten

A Machine-Learning Based Approach for 2D Character Animation

<Subtitle>

Bachelor Thesis

Bachelor Course on Creative Computing
at St. Pölten University of Applied Sciences

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<Place>, <DD>.<MM>.<YYYY>

Declaration

I assure that

- I have written this work independently, have not used other sources and aids than those indicated and have not made use of any other unauthorized assistance.

- I have not yet submitted this topic to an assessor in Austria or abroad for assessment or in any form as an examination paper.

- this work corresponds to the work assessed by the assessor.

Date: _____ Signature: _____

Abstract

Introduction: Warum behandeln wir das Thema

Purpose: Welches Problem soll gelöst werden

Method: Wie wurde die Problemlösung gemacht

Product: Was war das Ergebnis

Conclusion: Was sind die Folgerungen / Schlussfolgerungen aus den gewonnen Erkenntnissen

keine Referenzen und Zitate

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1 Example

!!! Please delete this chapter after finishing your work !!!

1.1 Settings

To add your name and the title of your work, please use the “Settings.tex” file! Additionally, switch there between German and English version.

1.2 How to Make Sections and Subsections

Use section and subsection commands to organize your document. LaTeX handles all the formatting and numbering automatically. Use ref and label commands for cross-references.

1.2.1 How to Make Lists

You can make lists with automatic numbering . . .

1. Like this,
2. and like this.

. . . or bullet points . . .

- Like this,
- and like this.

. . . or with words and descriptions . . .

Word Definition

Concept Explanation

Idea Text

1.3 Section

You have to write text between each headline.

1.4 Citation

This part describes the three types of citations which are possible:

1.5 Direct Citation

The maximum for a direct citation is a $1/2$ page.

> Overview first, zoom and filter, then details-on-demand (**shneiderman_eyes_1996**)

1.6 Floating Text Citation

shneiderman_eyes_1996 defined the Visual Information Seeking Mantra as “Overview first, zoom and filter, then details-on-demand”.

1.7 Indirect Citation

Some text which summarizes a paper or a book chapter. This could take several lines. Find attached a citation of a website (**kaley_match_2018**).

1.8 Figures

To place a figure use the following code example

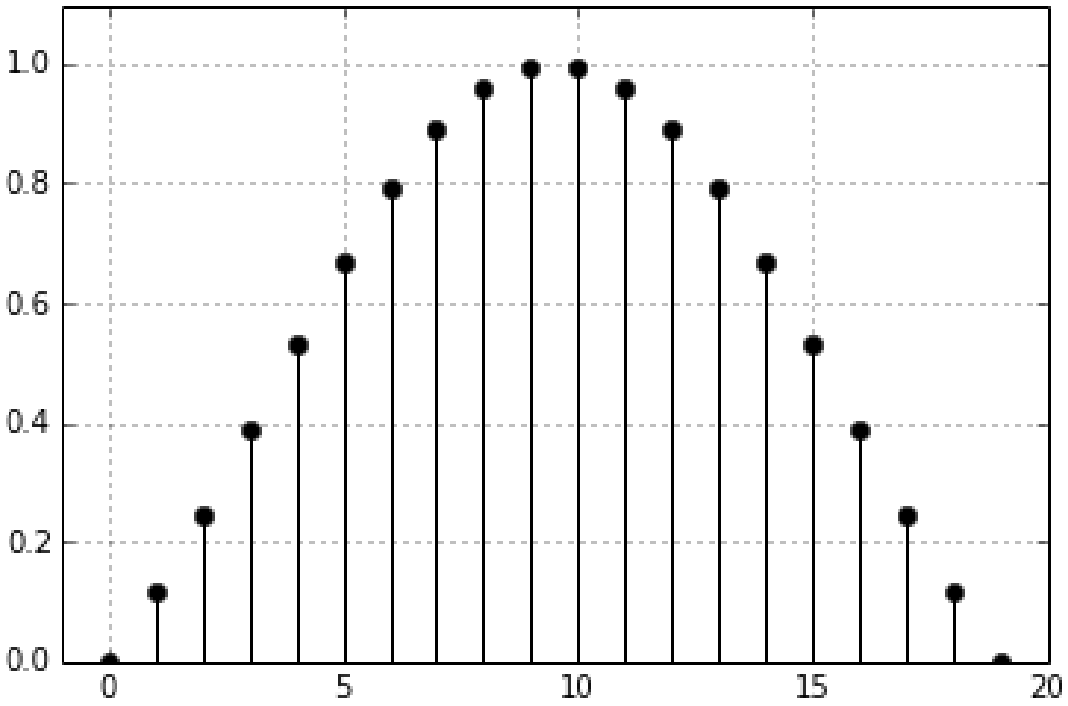
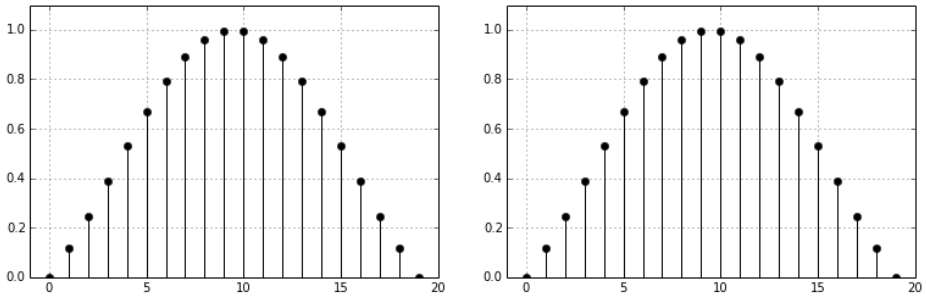


Figure 1.1. Interactive data exploration with multiple devices.

$$\int a, b$$



(a) Figure A

(b) Figure B

Figure 1.2. Wearables worn for experiments 1, 2, and 3.

Refer to a figure in the following forms:
If you take a look at Figure 1.1 ...
... text text (see Figure 1.1) ...

1.9 Listings

Listing 1.1. A bit of source code.

```
1 if( true == questions )
2 {
3     std::cout << "Let␣me␣google␣it␣for␣you";
4 }
5 else
6 {
7     std::cout << "Great";
8 }
```

Now lets take a look at Listing 1.1.

1.10 Table

Table 1.1. My caption with a very useful description. die kann auch etwas länger sein und über mehrere Zeilen gehen und so weiter.

	Item	
Animal	Description	Price ($)
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.50
Emu	stuffed	33.33
Armadillo	frozen	8.99

For the fast generation of tables from Excel use http://www.heise.de/download/excel2latex.html

1.11 Equations

LaTeX is great at typesetting equations. Let $X_1, X_2, \ldots, X_n$ be a sequence of independent and identically distributed random variables with E$[X_i] = \mu$ and Var$[X_i] = \sigma^2 < \infty$, and let

$$S_n = \frac{X_1 + X_2 + \cdots + X_n}{n}$$

This was a equation without a label.

$$S_n = \frac{1}{n}\sum_{i}^{n} X_i \tag{1.1}$$

This is the reference to equation 1.1.

denote their mean. Then as n approaches infinity, the random variables $\sqrt{n}(S_n - \mu)$ converge in distribution to a normal $\mathcal{N}(0, \sigma^2)$.

2 Introduction

Related work

Eitz et al. (2012) collected a dataset of 20,000 sketches and divided them into 250 categories of 80 images each. Humans recognized on average 73.1% of these sketches correctly. This dataset is used in my work to train and validate the classifier to chose which animation in the most appropriate to show.

3 Method / Methode

Wie wurde Literatur gefunden?

Welche Journals, Conferences, Libraries, Search engines... wurden genutzt?

Nach welchen Keywords wurde gesucht, wie viele Treffer gab es?

Nach welchen Kriterien wurde selektiert und warum?

4 Results / Ergebnisse

Presenting found literature in a useful way

4.1 First Section

Ich bin Text, Text, Text[1]

4.1.1 First Subsection

[1] http://mfg.fhstp.ac.at

5 Discussion / Diskussion

Comparison of presented technologies/methods/projects

Kritische Diskussion / Vergleich der Ansätze

Welche Methoden werden zumeist genutzt, warum?

Überblick / Zusammenfassung der gefundenen Literatur in einer sinnvollen Kategorisierung / Charakterisierung

6 Conclusion / Fazit

Was kann man daraus lernen?

Was fehlt?

Ideen für zukünftige Forschung

Bibliography

Eitz, M., Hays, J., & Alexa, M. (2012). How do humans sketch objects? *ACM Trans. Graph. (Proc. SIGGRAPH)*, *31*(4), 44:1–44:10.

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Listings

1.1 A bit of source code. 4

Appendices

A Appendix

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B Appendix

LoHrem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.LoHrem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. LoHrem