



**FAKULTA  
INFORMAČNÍCH  
TECHNOLOGIÍ  
ČVUT V PRAZE**

## ZADÁNÍ BAKALÁŘSKÉ PRÁCE

**Název:** Rozpoznávání souvislé řeči s využitím neuronových sítí  
**Student:** Adam Zvada  
**Vedoucí:** Ing. Miroslav Skrbek, Ph.D.  
**Studijní program:** Informatika  
**Studijní obor:** Teoretická informatika  
**Katedra:** Katedra teoretické informatiky  
**Platnost zadání:** Do konce letního semestru 2018/19

### Pokyny pro vypracování

Provedte rešerši metod pro rozpoznávání souvislé řeči s využitím neuronových sítí. Uvažujte rekurentní neuronové sítě a zvažte také možnost použití neuronových turingových strojů. Na základě rešerše a po dohodě s vedoucím práce vyberte vhodné řešení pro robota NAO. Maximálně využijte existujících knihoven s implementacemi potřebných metod. Navržené řešení otestujte na reálných datech. Rozsah práce upřesněte po dohodě s vedoucím práce.

### Seznam odborné literatury

Dodá vedoucí práce.

doc. Ing. Jan Janoušek, Ph.D.  
vedoucí katedry

doc. RNDr. Ing. Marcel Jiřina, Ph.D.  
děkan

V Praze dne 13. února 2018



CZECH TECHNICAL UNIVERSITY IN PRAGUE  
FACULTY OF INFORMATION TECHNOLOGY  
DEPARTMENT OF THEORETICAL INFORMATICS



Bachelor's thesis

# Continuous Speech Recognition by Neural Networks

*Adam Zvada*

Supervisor: Ing. Miroslav Skrbek PhDr.

March 29, 2018



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# Acknowledgements

THANKS



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## Declaration

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In Prague on March 29, 2018

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### **Citation of this thesis**

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## Abstrakt

V několika větách shrňte obsah a přínos této práce v českém jazyce.

**Klíčová slova** Replace with comma-separated list of keywords in Czech.

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## Abstract

Summarize the contents and contribution of your work in a few sentences in English language.

**Keywords** Replace with comma-separated list of keywords in English.



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# Introduction





# Introduction to Speech Recognition

Introduction to Speech Recognition



# Neural Networks

Neural Networks



# Recurrent Nerual Networks

Recurrent Nerual Networks



# **Connectionist temporal classification**

Connectionist temporal classification





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## Conclusion



## Acronyms

**GUI** Graphical user interface

**XML** Extensible markup language



## Contents of enclosed CD

	readme.txt .....	the file with CD contents description
	exe .....	the directory with executables
	src .....	the directory of source codes
	wbdcm .....	implementation sources
	thesis .....	the directory of $\text{\LaTeX}$ source codes of the thesis
	text .....	the thesis text directory
	thesis.pdf .....	the thesis text in PDF format
	thesis.ps .....	the thesis text in PS format