CHEN LIU

Basic Information

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Education

2011-2015 B.E in Computer Science & Technology, **Tsinghua University**, Beijing, China
GPA: 91.5/100
Rank: 9/123

Research Interests

Artificial Intelligence(AI), including Data Mining(DM), Natural Language Processing(NLP) and Machine Learning(ML).

Research Experience

Current – Mar 2014 Class-Based Summarization of Chinese Microblogs
Supervised by Hua Xu, Associate Processor
National Laboratory for Information Science and Technology

In times of big data, there are millions of Chinese microblogs(also known as weibo) posted every day. It is necessary to generate summarizations of these microblogs automatically. However, many developed systems and algorithms like The Phrase Reinforcement and Hybrid TF-IDF whose target language is English performs poorly in Chinese corpus, because much more different or informal expression in weibo delivering the same meaning weaken the power of words-cooccurence-based algorithms. This research focuses on designing a class-based algorithm to generate summaries of Chinese microblogs. It firstly uses machine learning algorithms such as LogicLDA and Word2Vec to distribute words into classifications in which words deliver the same meaning. Then we use a tree pattern reinforcement algorithms to generate summaries based on the classification in the first step.

Projects

Software-Level Projects

Dec 2013 – Sep 2013 **An Omnipotent Card Game Center**
An online game center supporting any games based on poker, the rule of which was written by users.
Golang, REVEL Framework, Html

Sep 2013 **A Users Behavior Analysis Tool on Android**
Two parts. Client is an Android application recording users' information, including position, time, temperature, motion and so on. Sever is a web service which can analyse users' information and communicate with the client.
Java, Android VM

Jun 2013

A x86 Assembly Interpretor
An interpretor supporting a subset of x86 instructions
C++

Jun 2013
May 2013

Mesh Simplification
Implement mesh simplification algorithm to reduce the number of points in a 3D space describing an object and maintain its shape.
C++, OpenGL

Jun 2013
Apr 2013

Ray-Tracing Drawing
Implement ray-tracing to depict a picture, including reflection, refraction, texture, depth of focus etc.
C++, OpenCV

Jan 2013

Parallel Preprocess of A Recommendation System
Parallelize the input module of a recommendation system to make it deal with millions of data efficiently and robustly.
Java, MapReduce

Research-Oriented Projects

Jun 2014

Ensemble Learning Analysis
Analyse the performance of different ensemble learning algorithms (Bagging, Adaboost.M1) on separating spam emails from usual ones.
Java, LibSVM, C4 Decision Tree

Jun 2014
May 2014

Dynamic Academic Hot Topic Discovery
A web service which offers a convenient way to detect hot academic topics and their relevance over time. It uses machine learning algorithm to train data from last five years' papers in NIPS database.
Python with Machine Learning Package, Html, Javascript, Flask Framework, Cloud(BAE, Baidu Application Engine)

Mat 2014

An Analysis of Decision Tree Classifier
Analyse the performance of decision tree with pruning strategies on deciding a person's income range based on basic information.
Java

Hardware Projects and Computer System

Dec 2013

A Simple FTP Protocol Implement for Linux
Set up a simple ftp server on linux supporting uploading and downloading files.
C++, Linux socket interface

Dec 2013
Nov 2013

A Computer System with a 16bits MIPS pipeline CPU
Use VHDL to build a computer system, including 16-bit MIPS CPU, BIOS boot partition and VGA output. This computer system can be controlled by a terminal on a PC via serial port.
VHDL, ISE, 32K RAM, FPGA, LED

Jun 2013

A Simple Rhythm Master Came Platform
use a 8*16 LED matrix, CPLD with only 240 logic unit plus few independent digital circuits to build a simple platform on which we can play rhythm games.
VHDL, CPLD, LED, Gate Circuit

Social Service

Jul 2012	**'Caring Girls in Gansu' summer practice** Captain of this detachment. Investigate living conditions of girls in two state-level poverty-stricken county in Gansu Province, western China. Second prize of the national competition.
May 2014	**Youth League of the department**
Jun 2012	Member(2013) and director(2014) in the group of practice.

Awards

Oct 2014	Scholarship of Academic Excellence in Tsinghua University (2014)
Oct 2013	Scholarship of Academic Excellence in Tsinghua University (2013)
Oct 2013	Scholarship of Social Work in Tsinghua University (2013)
Dec 2012	First prize of Physics Competition for College Students in Beijing