Yuanhuan Zheng

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Objective - **Software Engineer**

EDUCATION

2014.9 - 2017.6	Sun Yat-sen University	Computer Science	GPA: 91/100	**Top 5%**
2010.9 - 2014.6	Sun Yat-sen University	Information Security	GPA: 88/100	**Top 10%**

INTERNSHIP

2016.04 - 2016.06 **NetEase Game**

Project Description
In MMORPG games, gamers are willing to cooperate with other gamers.
The traditional text-based communication is inefficient and will harm gamers' QoE.
To improve the communication efficiency and gamers' QoE,
I build a VOIP system for our mobile games: Westward Journey.

Task Description
Basing on the open-source game engine: Cocos2dx, I implement the cross-platform VOIP clients which can work on both Android platform and IOS platform. The client can record the voice, encode the voice into Amr format and playback Amr-format voice from network in real time. I also use Python to implement a server which can broadcast the voice data to other gamers

Achievement
I implement the VOIP client that can work on both Android platform and IOS platform.
To test the function of VOIP client, I conduct a series of experiments, e.g:
ask some colleagues to chat with others using both Android-based client or IOS-based client, generating and broadcasting hug amount of voice data to test the stability of the system.

PROJECT

2015.07 - 2015.12 **Online Strategy for Crowdsourced Live Streaming Platform** **Key Member**

Project Description
Crowdsourced live streaming platforms (e.g. Twich.tv) transcode
the original video streams uploaded by gamers and distribute to viewers.
However transcoding service and distribution service cost too much money.
This issue inspires me to design an online algorithm to reduce
the operational cost while still ensuring the viewers' QoE.

Task Description
Modeling the problem and solving the optimization problem
by leveraging Lyapunov optimization framework. I derive the
online algorithm that helps service providers make optimal decisions.

Achievement
I conduct a series of trace-driven simulations to verify the algorithm performance.
The experiment results demonstrate that our algorithm can reduce operational
cost by up to **50%** compared with other alternatives while can still ensure viewers' QoE.
I also wrote a first-author paper accepted by **IEEE TCSVT Journal**.

2015.01 - 2015.11 **Subscribers Community Detection of China Unicom** **Key Member**

Project Description
Basing on the calling detail records of Unicom subscribers, detect the community,
recommend the community and find out the key subscribers in each community.

Task Description
Implementing the core algorithm: Overlapping Community Detection Algorithm.
Optimizing the community detection algorithm and designing the key-subscriber
detection algorithm. Verifying the performance of community detection algorithm
and key-subscriber detection algorithm on more than **30 million** subsubscribers.

Achievement
Basing on the above algorithms, we develop a community detection system. We apply
this system to the network formed by the calling detail records of **30 million** Guangdong
Unicom subscribers. To verify the effectiveness of our system, we conduct some
experiments. The results show the accuracy of community detection algorithm achieves about
80 % - 90%. I also wrote a paper published on SCI Journal as one of the co-authors.

2015.04 - 2015.05 **Online Public Opinion Analysis System** **Course Project**

Project Description
This project aims at analysing the public opinion through real-time tweets streams
fetched from Twitter. By filtering tweets via some key words, the project can help
figure out the public opinion on some events.

Task Description
I use Twitter streaming API to obtain the real-time tweets streams.
Focusing on specific area and topic, I filter the tweets with location information and key words.
After that, I leverage Spark Streaming API and Stanford NLP toolkit to analyse
people's emotion behind each tweet. Finally, I use the jQuery and JQVMap plugin
to build a web site to display the results.

Achievement
By leveraging Spark Streaming and Stanford NLP toolkit, this system can analyse
and display the results in real time.

HONORS AND AWARDS

National SDN Application Development Contest, The Third Prize 2014
Sun Yat-sen University Excellent Student Award 2014
Sun Yat-sen University Excellent Student Award 2015

ACADEMIC PUBLICATIONS

Online Cloud Transcoding and Distribution for Crowdsourced Live Game Video Streaming **TCSVT**-SCI Journal
Exploiting application-level similarity to improve SSD cache performance in Hadoop JSC-SCI Journal
Enhancing Telcom Service Quality with Big Data-enabled Churn Analysis JCST-SCI Journal

TECHNICAL SKILLS

Technical Skills
Familiar with common Data Structure and Algorithm
Familiar with C++, Java and Python programming language
Familiar Computer Network, Database

English Skills CET-6 score 585