Xiao Ma

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Education

Shanghai Jiao Tong University (SJTU), Shanghai — Sep. 2013 - June 2017 (Expected)
Bachelor of Science in Computer Science
GPA: 3.75/4.0 (Major), 3.59/4.0 (Overall) — GPA(Junior Year): 3.85/4.0(Major), 3.72(Overall)

Publication

Xiao Ma, Zhenzhe Zheng, Fan Wu and Guihai Chen. "Trust-Based Time Series Data Model for Mobile Crowdsensing", *IEEE International Conference on Communications 2017 (Submitted)*

Research Experiences

Trust-Based Time Series Data Model for Mobile Crowdsensing — Nov. 2015 - present
Research Assistant, Supervised by Professor Fan Wu — *Advanced Network Laboratory*

- Quantified the users' reliability in *Crowdsensing* and modeled the *Time Series Data* with a *Dyanmic Bayesian Network*
- Proposed an *Enhanced EM Algorithm* to learn the parameters for the *Dynamic Bayesian Networks* effectively and efficiently
- Conducted theoretical analysis to proove the effectiveness, efficiency and trustworthiness of the model
- Experimented on both simulation and the GPS data on over 10000 taxis in Shanghai using MATLAB to verify its effectiveness on smoothing, prediction and missing value inputation, with the standard error less than 0.05

Hot Topics Prediction in Online Social Networks — Mar. 2016 - present
Research Assistant, Supervised by Professor Xiaofeng Gao — *Data Communications and Data Engineering Laboratory*

- Developed Web Crawlers to collect data and built the database over 1000000 micro-blogs messages
- Preprocessed the data by *Hashtag Based Tweet-Pooling* to concatenate the tweets into a single document
- Exploited *Latent Dirichlet Allocation* on the preprocessed documents to build the *Topic Model*
- Built a *Bayesian Network* and assigned users with different weight according to their influence to predict whether a topic would become hot

Segmentation of Abdominal Adipose Tissues via Deep Learning — Sep. 2015 - Jan. 2016
Research Assistant, Supervised by Professor Bin Sheng — *Visual Media and Data Management Laboratory*

- Implemented a *Deep Neural Networks* with three hidden-layers to automatically distinguish the visceral adipose tissues and subcutaneous adipose tissues of a medical image with the accuracy over 90%
- Designed the user interface using MATLAB and the *Volume Rendering* with OpenGL on MFC to render the continuous segmented slices into a 3D Model
- Used CUDA GPU programming to accelerate the massive vector calculations during the segmenting process, obtaining a 57% speed up compared with CPU

Work Experiences

Internship at **Intel** Asia Pacific R & D Center(WTO Group) — Jun 2016 - present

- Adjusted benchmarks, including *Octane, Sunspider* and *Jetstream* to enable single case test on the *D8*, a shell of the *V8* Javascript engine, which is used in the *Chrome* browser
- Developed an *Auto-Test Framework* for *D8* based on *Python* and *Shell*, then collected a considerable amount of test data
- Identified and analyzed critical patches causing regressions, then uploaded corresponding patches to fix the regressions

Selected Projects

Simplified C Language Compiler — Sep 2015 - Jan 2016
Self-Developing, Supervised by Professor Li Jiang

- Realized a lexical analyzer with *Flex* analyzing the code and seperate them into tokens
- Performed the syntactic analysis using Yacc, and implemented the semantic analysis and syntactic checking after generating a parse tree
- Implemented register allocation and dead code elimination then transformed the intermediate code into LLVM

Smart Car Controlling Systems Sep 2014 - Jan 2015 & Sep 2015 - Jan 2016
Leader of a Three-People Group, Supervised by Professor Shiwen Zhang

- Processed the camera image with *OpenCV* to identify the car and the route
- Determined the car movement by a Depth-First-Search Algorithm
- Programmed on two Android Smart Phones, one for controlling the car, another for picturing
- Utilized *Socket Communicatioin* between two Android Phones and *Bluetooth Communication* between the car and the smart phone for control
- Controled the car integrating *Socket Communication* and *Bluetooth Communication*

Pipelined MIPS Processor Mar 2015 - Jun 2015
Self-Developing, Supervised by Professor Haojin Zhu

- Programmed on *Xilinx Spartan 3E* developing board in *Verilog HDL* to build the pipelined MIPS processor
- Implemented the control unit, ALU, memory unit and registers, and simulated the function of the processor

Awards

Academic Excellence Scholarship(Top 20% in SEIEE) 2014, 2016
Honorable Mention of Mathematical Contest In Modeling 2016

Miscelleneous

Programming:	(Proficient) C/C++, Python, MATLAB, Shell, LaTeX (Familiar) Java, JavaScript, HTML5, CSS, Verilog HDL
Language:	English (Fluent, TOEFL: 106; GRE: 321+4.0), Mandarin (Native)
Others:	Vocality, Calligraphy, Basketball