CV

JIAO ZIYANG

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Jilin Business and Technology College (JLBTC) **09/2015 - 06/2019**

Major: Electronics and Information Engineering

GPA: 3.75/4.0 Ranking: 1/80

Degree: Bachelor of Engineering

Washington University in St. Louis (WUSTL) **08/2019 – 08/2020**

Major: Computer Science and Engineering

GPA: 4.0 Ranking: NA

Degree: Master of science in computer science (expected in 2021)

Syracuse University(SU) **08/2020 – Now**

Major: Computer and Information Science and Engineering

GPA: 4.0 Ranking: NA

Degree: Ph.D. in computer science (expected in 2023)

Publications

Jiao Ziyang, *Application Analysis of Java Programming Language in Computer Software Development,* Digital Design, ISSN1672-9129, CN11-5292/TP

Languages

C, C++, Java, JavaScript, HTML, CSS, SQL, PHP, Python

ACADEMIC EXPERIENCES

CPR for Flash-Based Storage Systems **Advisor: Professor Byran S. Kim** **10/2020**

- Study on SSD aging and fail-slow symptoms
- Build a Fast-forwardable SSD model that can predict future wear states
- Analyze design tradeoffs of SSD

Deduce DB **Advisor: Professor Byran S. Kim** **09/2020**

- Study on LevelDB and analyze performance under different configurations
- Implement techniques discussed in TRAID on LevelDB
- Smarter categorizing and scheduling to amortize background IO costs in LevelDB
- Self-adaptive database adjusting to different workloads

Spam Email Detection **Advisor: Professor Flavio Esposito** **12/2019**

- Implement a system that mitigate the spamming problem
- Using Python to classify emails received into three categories: safe, spam and suspicious email
- Based on naive Bayes method

Website Design **Advisor: Professor Todd Sproull** **08/2019**

- Use HTML, CSS, Database, PHP, JavaScript, SocketIO ,etc. to design a website Safe from SQL Injection attacks
- Online chat website: using Node.js, SocketIO, etc. to build online chat website
- News website Link: https://github.com/ZiyangJiao/JavaDev/tree/master/newsSite
- Online calendar Link: https://github.com/ZiyangJiao/JavaDev/tree/master/calender
- File share website Link: https://github.com/ZiyangJiao/JavaDev/tree/master/fileShareSite
- Github main page: https://github.com/ZiyangJiao

Linux Kernel Module Concurrent Memory Use **Advisor: Professor Christopher D. Gill** **10/2019**

- Implement a kernel module that uses concurrent processing to compute all the prime numbers up to a specified upper bound.
- Use multi-threaded synchronization and concurrency techniques in which the threads will cooperate to complete a common task.
- Manage kernel memory dynamically within the kernel module.

Linux Kernel Monitoring Framework **Advisor: Professor Christopher D. Gill** **09/2019**

- Use kernel timers to schedule recurring events (e.g., thread wakeups) in the future.
- Use kernel threads to perform deferrable work inside the kernel.
- Create a simple monitoring framework that periodically captures basic information from kernelspace, using kernel timers and kernel threads to manage the frequency and context of such information gathering.
- Use tracing techniques to test the kernel module.

Machine Learning Algorithm Implementation*(supervised learning)* **Advisor: Professor Henry Chai** **09/2019**

- Use MATLAB to implement algorithms of PLA and regression, including linear and logistic regression, decision trees, etc.
- Use different methods to analyze modules, such as Hoeffding's inequality, VC-dimension and the bias-variance tradeoff.
- Use different methods (e.g., regularization) to improve module performance.

SCM Design and Simulation: Design of Trail Tracking Car **06/2018**

- Completed assembly of the tracking car
- Programmed with C language to modify the motor speed, realized the function of stop at the end of the route
- Modified the sensitivity of the sensor so as to identify the white color and realize the car's motion trail
- Used ultrasonic sensor to realize the function of obstacle avoidance

Laboratory for Face Recognition Based on Matlab+PCA+SVM, Chinese Academy of Sciences (CAS) 02/2018

Research assistant Advisor: Assistant Professor Liu Chao

- Set up Matlab programming environment and build the training set and test set
- Reduced the image dimension in ORL face database by using of Principal Component Analysis (PCA)
- Used support vector machine (SVM) training classification model and adjusted the model parameters
- Used the model to test and calculate the accuracy
- Used neural network model to construct classifier, used GAN network to generate handwritten font pictures
- Constructed multi-classifier by using a binary classifier
- Got access to machine learning and had a preliminary understanding of it
- Mastered Matlab programming language
- Had a preliminary understanding of PCA, SVM, GAN and BP algorithm

Wireless Intelligent Navigation Scooter Advisor: Associate Professor Hu Qi 10/2017

Innovation and Entrepreneurship competition held by Jilin Business and Technology College

- Acted as the team leader to coordinate group members and control the process of the project
- Inserted GPS navigation system that can positioning user and realize route navigation function
- Was responsible for the ultimate PPT making and presentation and won first class prize

NAO Robot Dance Design Competition Advisor: Associate Professor Hu Qi 05/2017

- Used choregraphe software to import robot NAO robot dance moves and won first class prize

ACM Programming Design Contest Advisor: Professor Liu Zhenghong 05/2016-06/2016

- Used C language to write codes and completed the contest with second class prize

Jilin Province Mathematical Modeling Contest Advisor: Jia Xiuli 05/2016

- Used mathematical modeling to solve practical problems: study on 4S shop evaluation and incentive policy
- Was responsible for paper writing, data processing and set up hierarchy evaluation model
- Completed the modeling and was awarded as the second class prize

HONORS AND AWARDS

Second class scholarship; school-level 2015/2016/2017/2018

First class scholarship, national encouragement scholarship 2016

EXTRA-CURRICULUM ACTIVITIES

Member of College Students Association for Science and Technology 2015-2019

Volunteer for the Asia-Pacific Mathematical Contest in Modeling 2016

- Participated in the assistant work to do advocate tasks for the contest
- Assisted participants to solve problems