Qiandong Tang

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EDUCATION

Southern University of Science and Technology (SUSTech) **Shenzhen, China**
B.Eng. in Computer Science *Expected: June 2020*
GPA: 91.27 / 100, Rank: 5th / 146
Relevant Coursework**:** Data Structure and Algorithm Analysis, Operation Systems, Principle of Database Systems, C/C++ Program Design

University of California, Irvine **Irvine, CA, USA**
Major in Computer Science, GPA: 4.00 / 4.00 *June 2019 – Sept. 2019*

RESEARCH EXPERIENCES

Big Data Visualization Using Cloudberry | UC Irvine **Irvine, CA, USA**
Summer Research Assistant | Advised by Prof. Chen Li and Prof. Shuang Zhao *June 2019 – Sept. 2019*

- Contributed to an open-source big data visualization middleware system called Cloudberry in the field of spatial data analysis
- Progressively processed a time-consuming query by generating and predicting mini-queries using runtime behavioral statistics; devised a novel algorithm called *Incremental Hierarchical Greedy Clustering (IHGC)* to reduce the running time of points clustering by 90%; leveraged *Forced Directed Edge Bundling (FDEB)* to reduce clutter; used Deck.gl and Leaflet to render an interactive map
- Supported real-time analytics and visualization on over **15 million** tweets without perceptible latency; presented a poster in the *UC Irvine* summer research program ceremony and released a demo system to show a spatial graph of tweets interactively

Identify Top Ranking User Preference in Continuous Space | SUSTech **Shenzhen, China**
Undergraduate Research Assistant | Advised by Prof. Bo Tang *Feb. 2018 – June 2018*

- Used computational geometric techniques to accelerate top-k query processing in spatial databases
- Implemented the Skyline algorithm to reduce the solution space; utilized R-Tree to build index for spatial data; developed several efficient pruning techniques based on R-Tree to prune local dominance data; conducted experiments over real datasets to demonstrate the efficiency of our solutions

PROJECT EXPERIENCES

Intelligent Course Recommender and Visualization System | SUSTech **Shenzhen, China**
Group Leader | Advised by Prof. Fei Ye *Feb. 2019 – May 2019*

- Created a web application to visualize major course structures and recommend courses for students
- Developed a Java web server using Spring Boot with Thymeleaf framework; built a convolution neural network on TensorFlow; implemented K-Nearest Neighbor algorithm to train the predictive model; utilized AngularJS to visualize course structures effectively
- Won the **Undergraduate Innovation and Entrepreneurship Scholarship** (Top 5 in the Department of CSE, SUSTech)

Pintos: A Simple Operating System Framework (Course Project) | SUSTech **Shenzhen, China**
Core Developer | Advised by Prof. Bo Tang *Feb. 2019 – June 2019*

- Designed and implemented a small Unix-based operation system framework
- Solved synchronization problems by implementing alarm clock and priority scheduling; implemented several system calls for user operations supported by the Pintos kernel; designed a simple file system including buffer cache, extensible files and subdirectories

Gomoku Artificial Intelligence (Course Project) | SUSTech **Shenzhen, China**
Core Developer | Advised by Prof. Ke Tang *Sept. 2018 – Dec. 2018*

- Designed an artificial intelligence program to play the traditional board game Gomoku
- Implemented the MiniMax algorithm to generate a search tree for position evaluation; increased the speed of tree search by 48% by using the Alpha-Beta Pruning technique; developed a heuristic function to evaluate the possible movements and reduce the response time
- Won the **First Place (1st / 145)** in Gomoku Artificial Intelligence Competition held by the Department of CSE, SUSTech

AWARDS & SCHOLARSHIPS

- **The First Prize** of Merit-Based Undergraduate Scholarship, Top5% (Four Times) *Sept. 2016 / 2017 / 2018 / 2019*
- The 2018 ACM-ICPC China Invitational Contest **Silver Medal** *May 2018*
- The 2018 ACM-ICPC Asia Xuzhou Regional Contest **Bronze Medal** *Oct. 2018*
- The 2018 ACM-ICPC Asia Beijing Regional Contest **Bronze Medal** *Nov. 2018*

SKILLS

Technologies: Git, Spark, Spring Boot, Deck.gl, TensorFlow, MySQL, PostgreSQL
Programming Languages: C++, C, Java, Scala, Python, Go, JavaScript, TypeScript