ZENG, YUKUN

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OBJECTIVE

Seeking full-time software/research internship for 2017 summer, see Github and Homepage for more about me

EDUCATION

Texas A&M University — **College Station, TX**
Master of Science in Computer Science — *Expected Graduation: May, 2018*
GPA: 3.67/4.00

Harbin Institute of Technology — **Weihai, China**
Bachelor of Engineering in Software Engineering — *Sep. 2012–July 2016*
GPA: Overall 3.45/4.00, Major 3.70/4.00

RESEARCH EXPERIENCE

Graduate Researcher — College Station, TX
Parasol Lab, supervised by Prof. Nancy M. Amato — *Sep. 2016 - Present*

- Implemented simple EST motion planner and improved it with single-shot midpoint guided sampling
- Experiences in working with robotic fundamentals libraries, like VIZMO++, PMPL(Parasol Motion Planning Library), and with parallel computing library (STAPL) for improving motion planning performance
- Generalizing embedding graph, flow graph and dynamic region utilities used in Dynamic Region-biased RRT

Team Leader — Weihai, China
HIT Robot Innovation Lab — *May 2015 - Jan. 2016*

- Led the development of two competition projects in National Robot Championship
- Used RoboBasic to develop a matrix approach of stable robot gait planning for RoboNova series robots

WORK EXPERIENCE

Software Engineer Intern — Shenzhen, China
ARRIS Group — *Jan. - May 2016*

- Automated signal-free wireless testing environment setup and modem performance benchmarking
- Modem routing architecture modification for security reinforcement

Technical Solution Intern — Dalian, China
Neusoft — *July 2014 - Aug. 2014*

- Neusoft IM (Instant Message) System development in Java with multithread chating, socket communication, real-time server monitoring and persistent data storage using Oracle DB

SELECTED PROJECTS

Mobile Storm: Distributed Real-time Stream Processing for Mobile Cloud — Research Assistant

- Proposed greedy and genetic algorithms for job topology allocation on multi workers with varying executors (NP-Hard), generally yields results within 30% gap comparing to near-optimal solution (CPLEX) but runs 100x faster
- Developed a Neural-like topology generator for job submission simulation to test our allocation algorithm
- Integrating facial processing utilities (including face detection, recognition, tracking, etc) and distributed computational tasks on MobiStorm platform, involving socket communication, multi-threading, stream processing, etc

Hi-Responsive Scheduling with MR Performance Prediction on Hadoop YARN — Research Assistant

- Experiences in Hadoop YARN basics like cluster setup and maintenance, Hadoop APIs (including RESTful APIs)
- Developed a cloud computing benchmark suite to test performance of heterogeneous Hadoop YARN cluster running multi frameworks like MapReduce, Spark, etc
- Proposed a novel job size prediction approach based on Machine Learning techniques and designed a size-based scheduling framework, which substantially improved the responsiveness of Hadoop cluster

Flash Vocabulary - Lightweight website for boosting vocabulary online — Leader

- Devised a novel MVC-derived pattern that best fits the interaction mode of our website
- Developed a comprehensive front-end framework to simplify front-end codes and create a universal UI
- Adopted AJAX and HTML5 Local Storage to avoid unnecessary reloading and enhance user experience

Jizhi Tutor Service - Online edu platform on Cloud Co-Leader

- Applied HTML, CSS, Javascript (JQuery) to the front-end dev, used complex SQL Server database (with triggers, view, stored procedure, etc) and .NET platform for data storage and business logic
- Lead the entire platform dev from designing, implementation to Cloud deployment and maintenance

General Coding - An APP to improve programmers' productivity Key Developer

- Developed the APP which highlights on improving user experience by optimizing data structure and algorithms, extensible to multi programming language API integration
- Implemented an objective linked-list and fuzzy query algorithm (Levenshtein Distance) in our Full-Text Inter-PL (Programming Language) API search engine

COURSE PROJECTS

CSCE 614 Computer Architecture *D*aniel Jimenez
Cache behavior simulator with LRU and random replacement
Fast path-based neural branch predictor with perceptron
High performance cache replacement using re-reference interval prediction (RRIP)

PUBLICATIONS

[1]Liu, Yang, **Yukun Zeng** and Xuefeng Piao. "High-Responsive Scheduling with MapReduce Performance Prediction on Hadoop YARN." Embedded and Real-Time Computing Systems and Applications (RTCSA), 2016 IEEE 22nd International Conference on. IEEE, 2016.

[2]Gaoyang Li, Guangri Quan, **Yukun Zeng**, "MASS: A short reads alignment tool oriented to massivedata," The Workshop on Algorithms in Bioinformatics 2016, submitted.

HONORS&AWARDS

Best Paper Award for Outstanding Bachelor Dissertation July 2016
Meritorious Winner(1st Prize) in National Robot Championship July 2015
Honorable Mention in Mathematical Contest in Modeling (MCM) Apr. 2015
2nd Place in HIT Software Design Competition Mar. 2014
People's Scholarship 5 times Oct. 2013, Oct. 2014, May 2015, Oct. 2015, Apr. 2016

PROFESSIONAL ACTIVITIES

Student Volunteer Weihai, China
HIT-MSRA Language Technology Summer School *J*uly, 2013

Peer Reviewer College Station, TX
IEEE Transactions on Robotics (T-RO)
IEEE Robotics and Automation Letters (RA-L)
Springer Journal of Intelligent & Robotic Systems (JINT)
ACM Transactions on Spatial Algorithms and Systems (TSAS)
IEEE International Conference on Robotics and Automation (ICRA) *S*ep. 2016 – Present

TEACHING EXPERIENCE

Grader College Station, TX
Texas A&M University *Sep. - Dec. 2016*

- Test case development and test automation for CSCE410 Operating Systems, involving frame management, memory paging, virtual memory, thread scheduling, device driver and file systems

Teaching Assistant Weihai, China
Harbin Inst. of Tech. *Sep. 2014 - June 2016*

- Including the following major courses: Database Systems, Computer Networking, Operating Systems, Compiler Principles, Object-Oriented Programming, etc