Yukun (Vincent) Zeng

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EDUCATION

Texas A&M University — **College Station, TX**
Master of Science in Computer Science — *Aug. 2016–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

WORK EXPERIENCE

Big Data Engineer Intern — Big Data at AT&T
Dallas, TX — *June. - Aug. 2017*

- Frauds detection by mining millions of billing records with Hive and PySpark, total profits ~$1.4M.
- Index results using Apache Solr and visualize billing deviations with customizable plots in time series on Banana.
- Developed National Access Mgmt. projects progress tracker (full stack) with JavaScript (JQuery), AJAX, JSP(Java EE), fully-RESTful backend and integrated it onto AT&T Access Analytics Tools Platform.
- Workflow automation with Jenkins, programming and debugging experience on Hadoop YARN, Spark and Tez.

Software Engineer Intern — ARRIS Technology Co., Ltd.
Shenzhen, China — *Jan. - May 2016*

- Network programming with C in embedded Linux, iptables chain control, modem performance benchmarking.

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

- Neusoft IM dev in Java with multithread chating, socket communication, chat history storage using Oracle DB.

SELECTED PROJECTS

vMobiNet: Emulating Wireless Network across Virtual Mobi Systems on Xen — Research Assistant

- Deployed networked mobile clusters across Android virtual machines on XenServer.
- Centralized network control through *tc* to emulate wireless features in virtual network and network performance benchmark using *iperf*.

CSCE 614 Computer Architecture — advised by Prof. Daniel A. Jimenez

- Cache behavior simulator with LRU and random replacement policies.
- Fast path-based neural branch predictor with perceptron.
- High performance cache replacement using re-reference interval prediction (RRIP).

CSCE 643 Multi-view Geometry Computer Vision — advised by Prof. Dezhen Song

- Image rectification.
- Direct Linear Transformation with Max Likelihood Estimation (Sampson Error).
- Affinity 3D Reconstruction.
- 3D Reconstruction from Uncalibrated Images.

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

- Scalable pwd-less interaccessibility, Hadoop YARN cluster setup, job history tracking using Hadoop REST APIs.

- Benchmark Hadoop YARN cluster with FaceBook trace and heterogeneous MR/Spark/Tez workloads.
- Size-based scheduling with Linear Regression job size prediction that significantly improved cluster responsiveness.

Flash Vocabulary - Lightweight website for boosting vocabulary online Leader

- Deved a front-end library in CSS to create a universal UI, avoided unneccesary page reloading through AJAX.
- Vocabulary pseudo-shuffling, reciting period arrangement based on Ebinhaus memory rules.

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

- Used fuzzy query algorithm (Levenshtein Distance) to recommend similar APIs in our Full-Text API search engine.

PUBLICATIONS

[1]Yang Liu, **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.

HONORS&AWARDS

Best Paper Award for Outstanding Bachelor Dissertation July 2016
Meritorious Winner(1st Place) 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

ACADEMIC EXPERIENCE

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

- Test case development and test automation for CSCE 410 Operating Systems, involving frame management, memory paging, virtual memory, thread scheduling, device driver and file systems.
- Automated grading of CSCE 312 Computer Organization coding assignments with bash scripts.

Graduate Researcher College Station, TX
Parasol Lab, supervised by Prof. Nancy M. Amato *Sep. 2016 - May 2017*

- Worked with fundamental C++ robotics libraries, like VIZMO++ and parallel computing library STAPL.
- 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*

- Introduced matrix-based data structure for storing robot engine parameters and developed a stable gait planning system to produce RoboBasic codes for controlling engine motions.

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

- For major courses like DB Systems, Computer Networking, Operating Systems, Compiler Principles, OOP, etc.

PROFESSIONAL ACTIVITIES

Student Volunteer Weihai, China
HIT-MSRA Human Language Technology Summer School July, 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) Sep. 2016 – Present