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 (e.g., Heatmap) on Banana.
- Deved National Access Mgmt. case tracker (full stack) with nice **Bootstrap** frontend that supports **AJAX** loading and autocompletion, **RESTful Java EE** backend and integrated it onto AAT Platform.
- Workflow automation with **Jenkins**, programming and debugging experience on **Hadoop**, **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 **socket**, **multithread** chating, chat history storage using **Oracle DB**.

SELECTED PROJECTS

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

- Pwd-less accessibility for scalable Hadoop cluster setup and job history tracking using **Hadoop REST APIs**.
- Benchmark Hadoop cluster with FaceBook trace (~6k Jobs) and heterogeneous MapReduce/Spark/Tez workloads.
- Size-based scheduler with **Linear Regression** job size prediction achieved **10x** faster response when heavily loaded.

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**.

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.
- Integrated facial processing utilities (including face detection, recognition, tracking, etc) and distributed computational tasks on MobiStorm platform, involving socket communication, multi-threading, stream processing, etc.

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.

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.

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.

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

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*