Yuhan Tang

yuhan.career@gmail.com | +1 (425) 624-7440 | Mountain View, CA
Portfolio · www.yuhan-tang.com | Blog · steventang626.com | LinkedIn · www.linkedin.com/in/yuhan-tang

EDUCATION

CARNEGIE MELLON UNIVERSITY, SILICON VALLEY — Mountain View, CA
Master of Science in Software Engineering — December 2019
- Core Courses: Cloud Computing, Foundations of Software Engineering, Service Oriented Computing, Software Requirements and Interface Design, Decision Analysis and Engineering Economics for Software Engineers, Exponential Innovation
- GPA: 3.89 / 4.0

TSINGHUA UNIVERSITY — Beijing, China
Bachelor of Engineering in Computer Science and Technology — July 2018
- Core courses: Object-Oriented Programming, Data Structures, Computer Architecture, Java Program Design and Training
- Teaching Assistant: Software Engineering (Designed the course project and led five teams to develop a sports information management system for the university, using Django, Node.js, React and Angular), Fundamentals of Programming (C++)

SKILLS

Languages   Java, C/C++, JavaScript, Scala, Python, Swift, HTML, CSS, XML, SQL, Bash, Markdown
Platforms   Unix, Linux, AWS, GCP, Azure, Git/GitHub, CircleCI, Heroku, Code Climate
Technologies   Spark, MapReduce, Node.js, Express, Socket.IO, jQuery, Ajax, React, Angular, Play, Django, Flask, Bootstrap, Docker, Kubernetes, Helm, Mocha, Chai, Grunt, Istanbul, JUnit, Pandas, Terraform, OpenCV, JDBC, ARKit, MySQL, HBase

EXPERIENCE

Customized Data Pre-processing in Input Management, Google, Sunnyvale, CA   May - August 2019
Software Engineering Intern (C++)   Web Experimentation Team
- Worked on hosted experiment input management, which provides user-friendly interfaces to support developers to register, look up, send and delete experiment inputs for Raffia experiments by RPC calls.
- Designed a general processor interface that extends the current input registration service to give users the flexibility to define and implement customized task processors to do the data pre-processing job.
- Developed two widely used processors based on the interface, which greatly reduce the effort needed when registering inputs.

Lookine: Facial Expression and Head Movement Recognition System, THU, Beijing, China   May - July 2017
Research Intern (Python, C++)   Professor: Jia Jia, Human Computer Speech Interaction Research Group
- Designed a cross-platform system that helps blind people obtain adequate nonverbal information including facial expressions and head movements in social communication.
- Implemented real-time recognition of Facial Action Units through the secondary development of open source facial behavior analysis toolkit OpenFace, improving the offline calibration algorithm to be online to meet real-time requirement.
- Proposed a novel head movement recognition algorithm using the finite state machine based on the accurate estimation of the head pose, which transcended the traditional SVM algorithm in both accuracy and speed of recognition.

PROJECTS

High Performance Twitter Data Analytics System, CMU-SV, Mountain View, CA   March - May 2019
- Designed and built a high performance, fault-tolerant web service on AWS based on Vert.x which could handle three different kinds of request (like user recommendation and range query) concurrently, reaching over 30,000 RPS within 1 dollar per hour.
- Developed an Extract, Transform and Load (ETL) process that normalized, tokenized and parsed over 1TB Twitter data with Spark and loaded the data into MySQL and HBase systems.
- Optimized database performance by indexing, schema design and memory caching to deal with scale and improve throughput.

ESN: Emergency Social Network Application, CMU-SV, Mountain View, CA   August - December 2018
- Designed and implemented back-end using Node.js with Express, Socket.io, and MySQL, which realized authentication, chatting (publicly and privately), announcements, status and location sharing, and information searching.
- Designed and built front-end UI using React and Semantic UI with high usability.
- Practiced test-driven development (TDD) with Mocha, Chai, Grunt and Istanbul, conducted static code analysis with ESLint, continuously integrated with CircleCI and continuously deployed the application to Heroku.

Remote FPGA Lab Platform for Computer System Curriculum, THU, Beijing, China   June 2016 - March 2017
- Led a team of five to develop a MOOC-ready online FPGA laboratory platform which targets computer system experiments. The platform makes it possible for over 200 students to do course experiments with real hardware online at the same time.
- Designed and implemented Web UI using jQuery and Bootstrap, built back-end server using Node.js and achieved real-time communication by Socket.IO. Leveraged hybrid development methods during development, like OOAD and unit testing.

PUBLICATIONS

- **Y. Bu, J. Jia, Y. Tang, X. Zhang, T. Gao**, Lookine: let the blind hear a smile, *Proc. of AAAI-18*
- **Y. Zhang, Y. Chen, X. Ma, Y. Tang, Y. Niu, W. Liu, S. Li**, Remote FPGA Lab Platform for Computer System Curriculum, *Proc. of ACACCSE-17*