

Hao Yuan

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Tongji University, Shanghai

EDUCATION

Tongji University Sep 2016 – Jun 2020 (expected)
Bachelor of Engineering in Software Engineering Shanghai

- GPA: 4.37 / 5.0
- Ranking: 4 / 52
- Relevant Coursework: *Data Structure (5.0/5.0), Algorithms (5.0/5.0), Software Engineering (5.0/5.0), Software Testing (5.0/5.0)*

PROFESSIONAL EXPERIENCE

Video Object Detection System Jul 2019 – Aug 2019
Full Stack (Supervisor: Prof. Zhang Fan) Shanghai

- Used Python and YOLO v3 to build the object detection system, enabled the users to detect the objects contained in their videos uploaded
- Recorded the video and object detection information into the database using Cassandra
- Built the front-end websites using HTML, CSS and JavaScript, enabling the users to view the processed videos in the website
- Utilized Flask to provide back-end services
- Dockerized the whole project to provide services using docker

Emergency Evacuation Solutions for the Louvre (MCM/ICM) Jan 2019 – Mar 2019
Algorithm Developer (Supervisor: Prof. Hongfei Fan) Shanghai

- Investigated the flow of people and the architectural structure in the Louvre, and devised an emergency evacuation plan for the Louvre
- Combined and adapted the traditional Cellular Automaton, Ant Colony Algorithm and Artificial Potential Field and developed a hybrid model for finely simulating the flow of people
- Offered 3 suggestions on evacuation plans and room renovation in the Louvre by analyzing real-time movement of people within the Louvre
- After the MCM/ICM competition, modified and refined the Artificial Potential Field, adding the breadth-first search algorithm to expand the applicable conditions from convex polygons to arbitrary polygons
- Co-authored a project paper "[A Hybrid Model for Evacuation Simulation and Efficiency Optimization in Large Complex Buildings](#)"

Nursing Support System (National Undergraduate Innovation Program) Oct 2018 – Jan 2019
Algorithm Developer (Supervisor: Prof. Hongfei Fan) Shanghai

- Analyzed the baby's health according to the diary uploaded by parents, and provided customized tips
- Built an adapted NLP system based on StanfordCoreNLP for natural language processing, refined the recognition

algorithm in 3 iterations, increasing the recognition accuracy by 14% in this situation

- Looked into the information flow recommendation algorithm and nutrition reminder algorithm, improved them to work with our scene using Python

Atom Collaboration Plugin (CSCW Lab, Tongji University)

Sep 2018 – Jan 2019

Front End Developer (Supervisor: Prof. Hongfei Fan)

Shanghai

- Developed an Atom plugin for developers to collaborate in real time while optimizing their collaboration experience
- Used native JavaScript, Node.js and ShareDB to build the editor view control
- implemented real-time view updates, file localization, file locks, etc. of the Atom editor
- Refactored the code with the new features of ES6, greatly optimized the part of the asynchronous call, making the system performance better and the code more concise

INTERNSHIP EXPERIENCE

SAP, Vocational Training Program

Jun 2018 – Present

Developer Intern, S4 Content Team (Manager: Chi Song)

SAP Labs China, Shanghai

- Leveraged Java and ABAP to build the test automation structure, facilitating the automatic testing between the traditional SAP ERP system and the new SAP HANA Cloud
- Utilized START to record automatic test scripts, simplifying the automatic testing process
- Helped to build and deploy a demo app, including a chat bot, on Microsoft Teams, mainly used Node.js and Microsoft Azure service.

PUBLICATION

Hao Yuan¹, Guo Yu, Yifan Ma, Jieneng Chen, and Xiongda Chen, "[A Hybrid Model for Evacuation Simulation and Efficiency Optimization in Large Complex Buildings](#)", Accepted by the [6th International Conference on Computer Science, Engineering and Information Technology \(CSEIT\)](#), 2019.

HONORS/AWARDS

- **Meritorious Winner**, MCM/ICM (2019)
- **National Undergraduate Innovation Programs Certificate** (2019)
- **Second Prize**, Mathematical Modeling Contest of Tongji University (2018, among >200 participants)
- **Second Class** Scholarship for the Academic Excellence, Tongji University (2017-2018, 2018-2019)

SKILLS

- **Programming Languages:** Python (3 years), JavaScript (3 years), C++ (2 years), Java (2 years), Matlab (2 years)
- **Framework & Tools:** Docker, Cassandra, OpenCV, StanfordCoreNLP, YOLO, Unity, Node.js, Flask, Vue.js
- **Languages:** English (Fluent), Chinese (Native)