

# Yuyi QU

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## EDUCATION

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### Georgia Institute of Technology

M.S. in Computer Science w/ specialization in Computing Systems

Selected Coursework: Advanced OS, Big Data System and Analytics, Deep Learning

Atlanta, GA

Expected: Aug.2020 - Dec.2021

### University of Michigan, Ann Arbor (UM)

B.S.E. in Computer Science (GPA: 3.9/4.0)

Selected Coursework: Operating System, Web systems, Database Management Systems, Networking, Machine Learning

Ann Arbor, MI

Sept.2018 - May.2020

### Shanghai Jiao Tong University (SJTU)

B.S.E. in Electrical and Computer Engineering

Shanghai, China

Sept.2016 - Aug.2020

## PROJECT EXPERIENCE

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### Conversational AI: Travel Plan Assistant (Supported by Clinc, Inc.) [[Github URL](#)]

Team Leader & Backend Developer

Ann Arbor, MI

Sept.2019 - Dec.2019

- Led a team of 8 to build a conversational AI that assists users to generate travel itineraries by interpreting user intent.
- Built a server-side REST API and a client application using React that makes AJAX calls to APIs using python Flask.
- Constructed the database for user information in Google Firebase. Maintained user sessions using Sha256.
- Crowdsourced user's conversations, labeled their intent and trained an intent classifier using neural network.

### Operating System

Programmer

Ann Arbor, MI

Jan.2020 - May.2020

- Implemented Linux thread library including thread, mutex, cv in C++. Tested it by writing multi-thread programs.
- Designed and implemented a pager to manage application processes' virtual address spaces using copy-on-write and LRU cache.
- Implemented a secure client-server file server by socket programming. Ensured consistency via designed order of disk writes.

### Web Search Engine

Full-Stack Developer

Ann Arbor, MI

Jan.2020 - May.2020

- Used React for frontend to build reactive components with attached events. Rendered HTML using Jinja templates.
- Implemented an index server as a multi-threaded MapReduce server. Generate page index using Hadoop.
- Deployed the index server to AWS EC2, which supports information retrieval based on both tf-idf and PageRank scores.

### Computer Network

Backend Developer

Ann Arbor, MI

Sept.2019 - Dec.2019

- Implemented a video content distribution network(CDN) with adaptive bitrate selection and DNS load balancing.
- Built a reliable transport protocol on top of UDP, which provides in-order and reliable delivery in the presence of packet loss, etc.
- Built a router configured with a static routing table, which can forward IP and handle ARP.

### Portable Cargo Volume Measurement System (Sponsored by Panasonic) [[Github URL](#)]

Software Engineer

Shanghai, China

May.2020 - Aug.2020

- Built a portable cargo volume measurement system with a RGB-ToF camera pair. Achieved an accuracy of 99% for a cubic cargo.
- Detected cargo planes and edges using RANSAC algorithm in Matlab.
- Calibrated intrinsic matrix and distortion for single camera and rotation and transformation for stereo camera using OpenCV.

## RESEARCH EXPERIENCE

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### Crowdsource + Machine Learning (Cro+Ma) Lab [[Github URL](#)]

Research Assistant | Lab directed by Walter Lasecki, Dept of CS&E, UM

Ann Arbor, MI

May.2019 - Jan.2020

- Crowdsourced the generation of more user-efficient clarifications by optimizing over information gain and answerability.
- Compared different levels of presentation of computer's knowledge. Found that entropy with ranking is most interpretable.
- Deployed project to Amazon Mechanical Turk and collected data from workers.

### Girls Encoded

Research Assistant | Program directed by Rada Mihalcea, Dept of CS&E, UM

Ann Arbor, MI

Jan.2019 - May.2019

- Implemented a website classifier and analyzed the composition of the Internet and how it changes over time.
- Clustered data into patterns using Latent Dirichlet Allocation. Classified from cosine similarity with Glove word embedding.

## SKILLS

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- **Programming:** C++, Python, JavaScript, Matlab, C, SQL, Mongo DB, HTML, CSS, LaTeX
- **Framework:** Flask, React, JQuery, TensorFlow, PyTorch, Jinja
- **Tools:** Git, Shell Scripting, SQLite, Linux, AWS, Heroku, OpenCV