

RUOWANG (JACKIE) ZHANG

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EDUCATION

University of Michigan Ann Arbor, MI
(Incoming) M.S., Computer Science & Engineering May 2022 (Expected)

- Research interest: Software Defined Networking, Distributed/Data-intensive Systems, High Performance Computing
- Funded program. Transferrable to PhD program
- Advisor: Prof. [Morley Mao](#)

University of Michigan Ann Arbor, MI
B.S., Computer Science & Data Science Sep 2016 - May 2020

- **GPA:** 3.765 / 4.0 (Distinction in LSA, Summa Cum Laude in CoE)
- **Selected courses:** Database Management Systems, Compiler Construction, Operating Systems, Machine Learning, Computer Security, Computer Vision, Computer Networking, Multidisciplinary Software Development, Data Mining
- University Honors, James B Angell Scholar, EECS 183 Grand Final Prize Winner (1/20 teams)
- Completed multiple extensive capstone projects including one from [Computer Vision](#) and one from [Data Mining](#).

SELECTED WORK EXPERIENCE

Databricks, Inc Remote (COVID-19)
(Incoming) Software Engineer Intern (Backend) Jun – Sep 2020

- Joining the Spark Environment team to maintain, improve and streamline Databrick Runtime releases over time

Hulu, LLC Santa Monica, CA
Software Engineer Intern (Backend) Jun – Sep 2019

- Fixed critical memory leaks of an internal data generator, which increased uptime by **30x and counting**
- Enabled detailed introspection into a critical cache module which could "save **hours** of debugging time"
- Overhauled the cache module with AWS S3 integration, more data sources and advanced **memory control**
- Proposed wide-scale architecture changes that utilized multiple teams and received **architect-level** attention
- Gave tech talks in an internal conference and participated in building a web **accessibility** toolkit in the annual hackathon

Alibaba Co. Ltd – Enterprise Intelligence Dept. Hangzhou, China
Software Engineer Intern (Full-stack) Apr – Jun 2019

- Revamped the prototype of Alibaba's next generation visual site builder & simulator
- Authored a 2-way code/UI syncing mechanism using **syntax and semantic analysis**
- Joined force with the framework team to craft a **brand-new** web templating language for visualization purposes
- Integrated the site builder with the department's Cloud IDE ecosystem (est. **30k+** users)
- Recommended as **senior software engineer** (P6) after the internship due to demonstrated performance

ENTREPRENEURSHIP EXPERIENCE

Backyard Parking - "Airbnb" for parking lots Ann Arbor, MI

Co-founder & CTO

Jan 2017 – Mar 2018

- Enabled the product to be successfully acquired (it is now “**Parqyt**”)
- Led the full-stack development of the SaaS platform and managed up to 3 student developers
- Integrated crowd-sourcing technology to achieve **14x** user acquisition than that before the integration

ReactiveXYZ – Web and app development studio

Melbourne, Australia

Founder

Jan 2015 - Present

- Managed up to 5 student developers; Led and delivered **20+** web/app projects to production.

SELECTED RESEARCH & DEVELOPMENT EXPERIENCE

Mobile & Network Lab

Research Assistant to Professor [Morley Mao](#)

Jan 2020 - Present

- Working on a new generic controller architecture powered by a **data-driven** approach
- Researching and building common virtualized network functions (firewall, telemetry etc.) using **P4 and P4 runtime**
- Creating a programming framework to enable high-throughput data communication using a **PubSub** model and flexible data manipulation using the **ReactiveX** paradigm, for general cyber-physical applications

GEMS Lab

Research Assistant to Professor [Danai Koutra](#)

Mar 2017 – Mar 2018, May 2020 - Present

- Joined force to create a **collaborative** visualization tool for large-scale graph data
- Implemented the web system that supports uploading, visualizing, manipulating and sharing large-scale graph datasets
- Integrated with the backend **Apache Spark pipeline** with a pub-sub interface via Redis and deployed to Azure clusters
- Overhauling the codebase for the internal graph algorithms for production use

Database Research Group (NSF funded)

Research Engineer & Summer Intern to Professor [Barzan Mozafari](#)

Mar 2018 – Mar 2019

- Led the frontend/API team (3-4 developers) to build a new travel planning engine with a declarative query language
- Overhauled the codebase to fix bugs, implement new features and increase maintainability; reduced codebase size by **30%** (**est. 90k lines of code**)
- Built a complex abstraction that supports transforming and manipulating over 20+ different user web interactions into data structures readily solvable as a CSP by commercial solvers (**est. 10k lines of code**)

PUBLICATIONS & POSTERS (*: *in submission*, †: *equal contribution*)

- * Yikai Lin, **Ruowang Zhang**, Efe Balta, Xiao Zhu, Jianbin Zhang, Kira Barton, Dawn Tilbury, Z. Morley Mao. SDNator: Enabling Extensible Data-Driven Control in Cyber-Physical Systems. *USENIX OSDI 2020*.
- Yuru Shao, **Ruowang Zhang**, Andrew Ramacher, Kira Barton, Z. Morley Mao. Context-Aware Intrusion Detection in Smart Manufacturing Systems. *MIDAS Annual Symposium 2018*. ([PDE](#) available)
- Jin, D.; Leventidis, A. †; Shen, H. †; **Zhang, R.** †; Wu, J.; Koutra, D. PERSEUS-HUB: Interactive and Collective Exploration of Large-Scale Graphs. *Informatics 2017*, 4, 22.

OTHERS

Languages: English (Professional), Mandarin (Native), Cantonese (Limited), French (Beginner)

Technologies: C++/Java/Python/Go/Swift/Objective-C/P4, Spring/Django/Flask/Laravel/React/Angular/Vue, Tensorflow/Pytorch, MySQL/Mongo/Cassandra/Redis, Kafka/Celery/RabbitMQ, Hadoop/Spark/Storm, Docker/Kubernetes