

Chang Liu

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EDUCATION

Syracuse University

Master of Science in Computer Science, Merit Scholarship

Syracuse, NY
May 2023 (expected)

Syracuse University

Bachelor of Science in Computer Science, Dean's List

Syracuse, NY
May 2021

Coursework: Object Oriented Design; Software Implementation; Algorithms and Data Structures; Operating Systems; Natural Language Processing; Android Programming; etc.

PROJECTS

Assemblage: Scaling Malware Analysis Pipelines | *Python*

May 2021 – Present

- Programmed multi-threaded crawler with GitHub API, achieving 20 requests/sec, collected 3 million repositories
- Created Windows worker to automate build process utilizing MSBuild, harvesting 200+GB binary data/day
- Designed SQLAlchemy ORM/Query for MySQL and SQLite database
- Implemented system communication among crawler, worker, and database, transmitting million messages/day based on RabbitMQ and gRPC
- Deployed system to Amazon Web Services EC2, scaled up instances using AMI, and set up MySQL on RDS

AutoGrade.org: An Auto-grading Web Service | *Full Stack | JavaScript*

Apr. 2021 – Dec. 2021

- Developed front end with Vue.js and middleware employing Swagger API. Created back-end Docker image
- Managed service with PM2. Responded to outages in the Linux production environment
- Used in 10+ curricula; serviced 1000+ students at Syracuse Univ. and the Univ. of Alabama at Birmingham

OpenCamera: An Android Webcam Application | *Java*

Oct. 2020 – Dec. 2020

- Published Android application with RTSP server based on Libstreaming
- Adapted Windows virtual device for compatibility with Zoom, Webex, Discord, etc.
- Reached 100 downloads from GitHub and Google Play Store

EXPERIENCE

Syracuse University

Research Assistant advised by Prof. Kristopher Micinski

Syracuse, NY
May 2021 – Present

- Co-led the development and composed the documentation of Assemblage individually
- Delivered demonstrations to project funder and industrial collaborators

Syracuse University

Teaching Assistant

Syracuse, NY
Sept. 2020 – May 2022

- Taught laboratory and review sessions. Designed projects and unit tests in Python- and Scheme-based courses
- Built widget with JavaScript that benefits students by calculating and visualizing grades

SKILLS

Programming Languages: Python, Java, Kotlin, JavaScript, SQL, Scheme

Frameworks: gRPC, RabbitMQ, SQLAlchemy, NumPy, Vue, Swagger, Selenium

Tools: Docker, Git, *nix, AWS, MySQL, Android Studio