Yuchao Wang

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Portfolio: https://yuw72.github.io GitHub: https://github.com/yuw72

EDUCATION

Northwestern University, Evanston, IL — Anticipated Graduation Date: Mar 2021
Master of Science in **Computer Science** — **GPA: 3.9/4.0**

University of Pittsburgh, Pittsburgh, PA — Graduation Date: May 2019
Bachelor of Science in Computer Engineering — **GPA**: **3.85/4.0**
Minor in Economics

SKILLS

Technical Skills: **Java, Python**, PostgreSQL, NoSQL, Go, C#, C/C++, JavaScript, HTML, CSS, Ruby, JUnit
Tools & Framework: **Android, AWS**, TCP/IP, Git, Postman, HTTP, REST APIs, SQL Server, Flask**,** Unity, Agile

WORK EXPERIENCE

Android Developer Intern, *HalloApp Inc (*Startup*), Palo Alto, CA* June 2020 - Sept 2020

- Built an **android social app** named **"**HalloApp**"** in **Java** to provide a social space for family and close friends
- Cooperated with the server team to implement the "**Resumable Upload"** via **S3** to **resume media upload** and **improve upload efficiency** by 50 % on average in light of **unreliable connection** from the mobile device to the upload server
- Increased message serialization efficiency around 10 times by migrating the messaging approach from using **XMPP** to **Protocol Buffers (Protobuf)**
- Implemented features such as one-one-one message replies and blocking a user from chat
- Developed new UI features such as copying text from chat messages and tapping for larger media thumbnail

Software Engineer in Test, Co-Op, *ANSYS INC., Canonsburg, PA* Jan – Dec 2017

- Developed automated tests for features of ANSYS core software product in **Python** and **JavaScript** on **Linux** and **Windows** and collaborated with developers to fix defects to ensure tests passing rate was at least 95%
- Improved web application for automated testing in **C#** with **ASP.NET** by fixing defects to enhance the user experience
- Managed test suites in which software features are tested with multiple CPU cores by using **High-Performance Computing (HPC)** to ensure the test suites passing rate was at least 95%

ACCOMPLISHMENTS

Game Development, Capstone Project Present

- Develop a **multiplayer detective role-playing game** in which players need to infer and find the murderer among players based on the scripts and clues generated by my system
- Build the client in **Unity** and the server in **Node.js** that communicates via **Socket**

Computer Networking, Course Project Present

- Designed a **TCP** protocol in **Python** that deals with Packet reordering, packet loss, and data corruption error on top of **UDP** and improved performance with **pipelining**
- Built a web client and a web server to which it can connect via **UNIX socket** in the **HTTP** protocol

Distributed System, Course Project Mar **-** June 2020

- Built a distributed MapReduce library in **Go** and Implemented a word counter with the library created
- Developed **Raft**, a replicated state machine protocol that allows the service to resume operating in case of server failures

Geospatial Vision and Visualization for Autonomous Driving Mar – June 2020

- Implemented **object detection** in Point Cloud for road boundary in **Python** by applying Point Cloud coordinate conversion, Point Cloud filtering and dilation, and Hough transform for line segments
- Achieved **camera smear detection** by applying gaussian bur and the smear detection algorithm from the paper

Self-Charging Robot, Senior Design Project Jan – Apr 2019

- Constructed a **self-charging robot** that automatically plugs itself into the wall outlet by collaborating with a team of four
- Built a circuit with **Teensy** and developed control algorithms in **C++** on **Linux** for **Raspberry Pi** to navigate the robot to the wall outlet and eventually minimized the error of plugging in down to 0.5 centimeters away from the outlet