

# Fan Zang

217-305-2744 | [allenfangfan@gmail.com](mailto:allenfangfan@gmail.com) | [linkedin.com/in/fan-zang/](https://www.linkedin.com/in/fan-zang/)

## EDUCATION

**University of Illinois Urbana-Champaign**

*MS in Computer Science*

*BS in Mathematics & Computer Science*

Champaign, IL

08/2022-12/2023

08/2018-06/2022

## WORKING EXPERIENCE

**ASM International**

**Software Engineer**

Phoenix, Arizona

01/2024-present

*Skills: C++, C#, Python, .NET MAUI, gRPC, MySQL, Agile, MSTest, CI/CD, Jira*

- Responsible for developing the **.Net** Framework Application: Common Software Architecture (CSA) that aim to control all generations of ASM manufactured semiconductor wafer processing equipment.
- Led the Agile development of a high-performance **MySQL** database (Avg 1000 QPS) for real-time data from device drivers. Independently design all of the table schema, index, and stored procedure to ensure high scalability and performance. Set up the CI/CD pipeline for **MSTest** in Gitlab to gain faster feedback.
- Developed a Database Administration application that supports space-efficient archiving, automatic backup & cleaning, and performance analysis for over **50 TB** daily data. Enable ASM partners to easily monitor performance metrics and manage database health.
- Optimized the data transmission between front-end server and back-end device driver with **gRPC**. Conducted **A/B testing**, demonstrate a **80%** reduction in latency for real-time device data.

**Amazon Web Service**

**Software Dev Engineer Intern**

Seattle, Washington

05/2023-08/2023

*Skills: Kotlin, Go, AWS(Lambda, S3, EC2, CloudFront, CloudWatch), AWS IoT Core*

- Responsible for developing a new software for AWS IoT Device Advisor, that aim to remotely control the IoT devices system and track device metrics like CPU usage and bandwidth consumption.
- Realized the communication between cloud and IoT device using MQTT and SSH protocol.
- Designed and successfully deployed the software using **CloudFront** and **S3**.
- Significantly increase the capability of Device Advisor test suites by allowing customers to simulate bad scenarios using system command while validating their IoT devices for reliable and secure connectivity with AWS. Additionally, new device performance metrics are added in final report in Amazon CloudWatch.

**NetEase Games**

**Game Engine Developer Intern**

Hangzhou, China

07/2021-08/2021

*Skills: C++, Python, Unity Engine, Multi-threading*

- Responsible for optimizing the path finding engine used in games with **more than 50 million** players.
- Implemented a hierarchical A\* Path finding algorithm to dynamically load map information, based on the open-source navigation mesh tool set [Recast & Detour](#).
- Pair-t tests show average memory consumption of path finding is reduced by **90%** without losing accuracy.

**RootLo**

**Application Developer Intern**

Champaign, IL

03/2021-08/2021

*Skills: Javascript, Python, NLP, Firebase, REST API*

- Responsible for development of the chat app RootLo. Realized the integration between RootLo & Slack.
- Developed the chat bot feature using **Microsoft Bot Framework** to introduce RootLo features and provide location-based service like weather broadcast. Result in more than **1 million** new users since feature release.

## PROJECTS

**Tap-Tap Trend** Programming Studio

9/2021-11/2021

- A **full stack mobile app** that provide users with selected content from game download platform Tap-Tap.
- Back End: Develop python web scraper(**Beautiful Soup** & Selenium Web Driver) for data preparation. Store data to cloud **MongoDB** using pymongo. Build **RESTful API** for front end using python flask.
- Front End: Use Javascript(**React Native**) to develop the mobile app for both IOS and Android. Use Fetch API to request data and maintain user system with back end.