

Chengzhe Li

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EDUCATION

UNIVERSITY OF MASSACHUSETTS AMHERST

Amherst, MA

M.S. Computer Science Candidate (Expected graduation May 2021)

GPA:4.0

- **Relevant Coursework:** Game Programming, Secure Distributed System, Distributed&Operating Systems, Thry & Practice/Software Engin, Machine Learning

UNIVERSITY OF MASSACHUSETTS AMHERST

Amherst, MA

B.S. Computer Science (Sep 2016 - Dec 2019)

GPA:3.5

- **Relevant Coursework:** Artificial Intelligence, Pract & Appl of Data Managemnt, Introduction to Algorithms, Operating System, Computer Networks, Software Engineering
- **Awards & Activity:** Bay State Master, Course contributor of Computer Networks, ESL Acitivity Assistant

SKILLS

- Proficient in C/C++, C# and Python, familiar about Java, and always willing to learn new languages
- Developing experience in Unity3D, knowledge about game programming and underneath.
- Good Understanding of Data Structure, Operating System, Database Management, Networks and algorithm.
- Familiar with Agile developing and Software Engineering design and procedure.
- Knowledge and experience of implementing and using AI algorithms and ML models and concepts.
- Understanding of distributed systems, complicated operating systems, and secure decentralized systems.
- Programming expeirnece with RESTful, RPC, mulithreading distributed system, familar with docker.
- Good knowledge base of Computer Graphics and Linear Algebra.

PROJECTS

CookingPapa

- Game developed using Unity. The idea is the player need to fight with the monsterized animal or vegitable to get the food material. In this stage, some intergrations will be acquired after defeating the boss, some other will be hidden on the scenes. Other material like salt may also need to be acquired in some ways. Then, player need to use the same way as cooking in the real life to cook the material.
- Choosing the assets we used, deign the game logic and implementing the gameplay. Adding videos, BGMs, and sound effects to make the game more enjoyable.
- Added clear instructions, particle system, and physical systems to make the game harder but understandable.
- The playable game and demo video are available on my Github.

Pygmy

- Pygmy is is simulated online bookstore micro servers. We built frontend server, order server and catalog server as three separete RESTful micro servers by Flask, and a simple command line user interface to interact with it. Worked with Sharuya.
- We used Sqlite3 as lightweight database and storing information on catalog server.
- The frontend server support three operation, search(catagory), lookup(item), and buy(item). The first two will query the catalog server, and the third one go to order server, then the order server will update the catalog server and return.
- In addition of the basic functionalities, we implemented support for replication on backend servers, cache on frontend servers, load balancing and crash fault tolerance and recovery. We also use docker to containerize our microservers so it's easier to deploy.

Bazaar

- P2P networks built in Python, used pyro4 as RPC library, nodes were able to rise "look up" call to buy items from other nodes on the network. The message would be passed by RPC function. The structure of the network was configurable. The network can handle multiple transactions been processed at the same time. Worked with Sharuya.

PROFESSIONAL EXPERIENCE

TENCENT

SHENZHEN, CHINA

Engine Developing Intern

May 2020 - August 2020

- I will be working on developing a distributed framework for improving efficiency of Unreal Engine.
- The framework is developed in .NET
- Get my self familiar with the existing framework fastly
- Testing, Debug, and fixing known problems
- Research, design, and implemented new distrubuting method to improve the hungry workers problem.
- Work with CI to make the project pipelined and efficient. Using data virtualization tools to analyse logs