
Develop high quality projects to satisfy customer requirement. Write readable and clean code. Effective team player in tech and business environment. Fast learning in new frameworks and languages. Well-founded knowledge in the domain of Computer System.

Expertise

Operating System: Linux system calls and library functions, Kernel structure, Processes and threads, Concurrency

Software Development: Object-oriented languages: Java, Python, C, etc., Framework: Spring, Design patterns, clean code writer, Test Driven Development

Information Security: Project security against hackers, Access control systems, Cryptography, Symmetric and public keys, Malware detection software development

High Performance Computing: Multi-threaded algorithm for distributed system, Utilize GPU to do concurrency calculation, good sense of cache localities

Cloud: AWS services: cloud computing, cloud data storage, cloud servers, serverless application

Work Experience

Software Development Engineer Intern

Amazon, Summer 2021

- Migrated a core service to AWS Fargate starting from design to beta demo
- Communicated with different teams who own dependent services to solve onboarding issues
- Built a full CD pipeline to release source code all the way to production automatically
- Built upon Spring framework with profound use of inversion injection
- Integrated multiple AWS cloud services in this project, e.g., CloudWatch, CloudAlarm, IAM, SQS, DynamoDB, BeanStalk, EC2, ECS, Fargate, Lambda, S3, Auto Scaling
- Implemented unit tests with > 95% coverage and integration tests in the full CD pipeline

Selected Projects

Compiler

Georgia Tech, 2022

- Used ATLR4 to build the front-end checking syntax and symantic errors
- Translated source code into IR code which was then optimized based on CFG
- Translated IR code to Assembly which was future optimized for less code and more efficiency

Video Game Design

Georgia Tech, 2021

- Designed and built a video game from scratch based on Unity 3D
- Team leading in organizing a team of 5
- Animations creation and scripts for control of them
- Game AI's behavior and interaction with player and environment

High Performance Computing Projects

Georgia Tech, 2021

- Implemented efficient matrix multiplication with cache oblivious algorithm
- Implemented efficient collective algorithms using MPI for cluster
- Implemented bucket sort algorithm for large data sorting

Operating System Projects

Georgia Tech, 2021

- Built a library of protocol for communication based on sockets
- Designed multi-threading apps in both server and client sides
- Designed a proxy server in between supporting multi-thread multi-process caching
- Designed a Distributed File System based on gRPC
- Implemented a Mapreduce algorithm for a distributed system

Information Security Experiments

Georgia Tech, 2020

- Found buffer overflow vulnerabilities in a program
- Exploited them to find a way to run shell by return to libc calls
- Dynamic malware analysis using Cuckoo sandbox

- Machine learning virus patterns using Malheur
- Experimented penetration exams of XCS, XCRF, and SQL injection.

Education

Georgia Institute of Technology

Degree Earned Aug 2022

MS in Computer Science

GPA 4.0/4.0

College of Computing

Track: Computing System