

# Tengbo Zou

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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. Had successful SDE intern experience. Well-founded knowledge in the domain of Computer System. Actively looking for a full time or summer intern software engineer position where my passion and experience can be an asset to the team.

## Expertise

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**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

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### 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

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### 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

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### Georgia Institute of Technology

Expected Dec 2022

MS in Computer Science

GPA 4.0/4.0

College of Computing

Minor in Computing System