Yi Wang

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EDUCATION

University of Waterloo Sept 2020 – Apr 2025
Bachelor of Computer Science, GPA: 3.72/4.0
Relevant Coursework: Artificial Intelligence, Distributed System, Networks, Compilers, Mobile Development

WORK EXPERIENCE

Amazon Web Service Vancouver, BC
Software Engineer Intern May 2024 – Aug 2024

- Designed and implemented a robust port scanning service in Python, capable of monitoring over 8 million IPs to proactively detect and identify potential security vulnerabilities.
- Developed the core port scanning functionality in Rust, leveraging its efficient asynchronous capabilities to parallelize port scans, reducing the scanning time for a single IP by 48%.
- Optimized the scanning process by harnessing AWS Lambda's concurrency to scan multiple IPs simultaneously, cutting the scanning time per host by 94%.
- Orchestrated a two-layer Step Function architecture to aggregate scanning results and collect metrics.
- Created a comprehensive CloudWatch dashboard for real-time monitoring, metric tracking, and automated alarm generation to ensure ongoing service security.

Tiktok Shanghai, CN
Backend Engineer Intern Sept 2023 – Apr 2024

- Enhanced the service level of a core data service that managing user privacy settings by implementing a multi-tenant architecture, which improved fault tolerance and overall stability.
- Split the service's computing engine cluster based on analyzed upstream tenant traffic profiles, categorizing upstream tenants by priority to achieve logical isolation and enhance the service's fault tolerance ability.
- Refactored the cache layer by dividing Redis into separate clusters to align with the splits in computing level.
- Implemented degradation strategies for different tenant clusters, prioritizing resource allocation to clusters of higher-priority tenants during incidents to preserve service's critical functionality.
- Implemented a permission-checking procedure in TikTok's video architecture that prevented unauthorized downloads of watermarked videos, reducing the risk of fines up to 2% of global revenue.
- Consolidated all modifications of user's private account settings into a single interface, standardizing updates through one streamlined access point for enhanced manageability and safety.

Electronic Arts Toronto, ON
Software Engineer Intern Sept 2022 – Dec 2022

- Developed a 2D object-shooting game in Unity using C# and integrated the game into a new EA IP metagame.
- Built an internal map design tool leveraging Bezier curves to model smooth and versatile curves, allowing designers to customize maps by adjusting control points to fine-tune the path's curvatures.
- Implemented an object progression mechanism to propel objects along the map and developed an object gun with a collision detection algorithm to merge launched objects into the moving chain when they collide.
- Utilized object pooling techniques to manage object lifecycles, reducing memory usage by 50%.
- Implemented essential UI elements including control interface, menu, score display, progress indicator, etc.

University of Waterloo Waterloo, ON
Software Engineer Intern & Instructional Support Assistant Jan 2022 – Apr 2022

- Developed multiple code assessment tools to enhance the evaluation process for students' coding assignments.
- Wrote functional and performance tests in C to assess the correctness and efficiency of students' programs.

Skills

Programming Languages: Go, Python, C++, C#, Java, HTML/CSS, JavaScript
Tools: AWS, git, gRPC, Linux, LangChain, MySQL, Redis, Unity, Google Cloud