

# Yangtao Ge

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## EDUCATION

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- **University of Oxford** Oxford, UK  
*Master (Msc) in Software and Systems Security, Part-Time* Sept. 2024 – Present
- **University College London** London, UK  
*Master of Engineering (MEng) in Computer Science; Degree Award: First Class Honours* Sept. 2018 – Sept. 2022
- **University College London** London, UK  
*Undergraduate Preparatory Certificate; Avg. Score 86/100* Sept. 2017 – June. 2018

## PROFESSIONAL SUMMARY

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Accomplished Backend Software Engineer with two years of industry experiences at Smartsheet and prior internships at Spotify and R3. Specializes in building and managing scalable microservices on AWS platforms like EKS and ECS, and proficient in developing robust CI/CD pipelines and infrastructure solutions with Terraform. Currently a Software Engineer II, I manage and own key services from inception to deployment, collaborating effectively with cross-functional teams. Committed to broadening my software engineering expertise while deepening my specialization in cloud infrastructure and security, I am actively developing into a T-shaped professional with comprehensive knowledge and deep technical skills.

## PERSONAL SKILLS

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- **Programming Languages:**
  - **Java:** Proficient in building scalable server-side applications using Spring Framework and Gradle.
  - **Golang:** Proficient in building concurrent applications, primarily for microservices using Chi and Gin frameworks.
  - **Python:** Skilled in scripting and automation, as well as backend development with AWS Lambda.
  - **Other Languages:** C/C++ (Competent); JavaScript (Proficient); SQL (Proficient)
- **Cloud Platform & Tools:**
  - **AWS:** Experienced with EC2, SQS, S3, and Lambda for cloud-based applications building with **terraform**
  - **Docker:** Strong capabilities in containerization and version control of deployment environments.
  - **Kubernetes & ECS:** Proficient in orchestrating and managing containerized applications in AWS EKS and ECS
- **DevOp & Analytic:**
  - **GitLab/GitHub:** Proficient with git for version control and building CI/CD pipelines.
  - **OpenSearch:** Implemented for search and log analysis solutions using Fluentd in containerized environments.
  - **Datadog & Grafana:** Proficient in building interactive dashboards for real-time data visualization and analytics.

## WORK EXPERIENCE

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- **Smartsheet** London, UK  
*Software Engineer II* Jan. 2023 - Present
  - **Technical Innovation & Leadership:**
    - \* Architected and led the Async Move History Project, transforming a synchronous system into an event-driven architecture that eliminated API gateway timeout errors and reduced system latency by 70%.
    - \* Spearheaded cross-functional collaboration with other service teams to resolve two critical customer escalations affecting enterprise clients with "whale grids" (10M+ history records).
    - \* Achieved 50% cost reduction through strategic system redesign, legacy system deprecation, and optimization of API service resources, delivering significant ROI.
    - \* Mentored junior engineers through structured pair programming and knowledge sharing sessions, enabling them to contribute independently to mission-critical projects.
  - **DevOps Excellence:**

- \* Designed and implemented a company-wide centralized ECS pipeline (adopted as part of PEAK initiative) that standardized deployment processes and improved security posture, also slashed the new service onboarding time from weeks to under 24 hours through template standardization and process automation.
  - \* Pioneered the adoption of Graviton instances and multi-architecture builds, reducing ECS operational costs by 25% while maintaining performance.
  - \* Created hardened, secure container images with automated vulnerability scanning, establishing new security standards for the organization.
- **Core Technical Contributions:**
  - \* Developed and optimized Golang microservices (CHI framework) that improved P95 latency by 20% through efficient goroutine parallelization and caching strategies.
  - \* Implemented comprehensive observability solution integrating FluentD, OpenSearch, and Datadog dashboards, reducing Mean Time To Resolution for production incidents by 35%.
- **Spotify** London, UK  
*Backend Engineer Intern* *June. 2022 - Sept. 2022*
  - **Java Microservices:** Developed backend microservices using the Apollo framework and gRPC, which enhances music delivery processes and service efficiency for both music providers and Spotify operatives.
  - **Testing Enhancement:** Authored technical documentation outlining key strategies for testing improvements, which was instrumental in increasing code coverage from 75% to 90%, substantially boosting application reliability
  - **Operational Integration:** Engineered a Slack notification workflow that automatically informs Spotify operatives of stakeholder status updates, enhancing operational communication and responsiveness.
- **R3** London, UK  
*Solution Engineer* *June. 2021 - Sept. 2021*
  - **Confidential Computing Development:** Actively contributed to the enhancement of the Conclave example codebase utilizing Kotlin and Java, which has been utilized in commercial sales processes, communicating with non-technical stakeholders to demonstrate practical applications of confidential computing in business solutions
  - **Corda Certification:** Successfully passed Corda Developer Certification Exam, validating expertise in enterprise blockchain technology such as distributed ledger and contracts. [Credly Credential]
- **Healios** London, UK  
*React Native Developer* *Dec. 2020 - Jun. 2021*
  - **React Native Development:** Participated in the development of "ThinkNinja," an NHS-affiliated app designed to educate children about mental health, utilizing React Native and TypeScript. Successfully implemented multi-language support, which enhancing user accessibility and engagement.
  - **Code Quality and Efficiency:** Improved code robustness and maintainability by integrating TypeScript and ESLint. Optimized development workflows by configuring Redux for state management and Redux-Saga for handling asynchronous operations, thereby boosting overall code efficiency.
  - **Continuous Integration and Testing:** Integrated TestFairy to streamline internal app distributions. Developed and implemented a continuous integration pipeline that reduced deployment cycles by 30%, substantially enhancing team productivity and application reliability.

## PROJECTS

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- **Fuzz Testing for DPC++** London, UK  
*Individual Project Researcher* *Sept. 2021 - Jun. 2022*
  - **DPC++ Fuzzing Framework:** Wrote a dissertation to propose the first fuzzing framework for DPC++ which includes an instrument tool to track the coverage and a fuzzer to generate test inputs. Establish a DPC++ code collection to benchmark the testing framework effectiveness.
  - **LLVM & Clang:** Implement the testing framework under LLVM compiler infrastructure and use Clang LibTooling API to instrument target program automatically on AST level.
- **Ophidia Technologies: Smart Label Project** London, UK  
*Tech Team Leader & Full stack developer* *Jun. 2021 - Dec. 2021*
  - **Leadership and Architecture Design:** Led a team of three software engineers in the design and development of a full stack application for smart e-ink labels. Spearheaded the software architecture planning, ensuring optimal integration of front-end and back-end components for enhanced performance and scalability.

- **Dockerization and Pipeline:** Successfully dockerized the backend API, facilitating smoother, more reliable deployments. Engineered and deployed a CI/CD pipeline on AWS, improving development workflow and deployment efficiency by automating updates and testing processes.