Yangtao Ge
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EDUCATION

- **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 – Jun. 2018*

ACADEMIC INTERESTS

RESEARCH EXPERIENCE

- **Fuzz Testing for DPC++** — London, UK
  Individual Project Researcher — *Sept. 2021 - Jun. 2022*
  - **Fuzzing Framework**: Write a dissertation to propose the first fuzzing framework for DPC++ and create a dataset 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.

- **Community Detection For Temporal Bitcoin Transaction** — London, UK
  Individual Project Researcher — *Oct. 2021 - Jan. 2022*
  - **Fuzzing Framework**: Write a dissertation to propose the first fuzzing framework for DPC++ and create a dataset 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.

- **Clone-based Code Method Usage Pattern Mining** — Remote, China
  Research Assistant — *Jun. 2021 - Sept. 2021*
  - **Fuzzing Framework**: Write a dissertation to propose the first fuzzing framework for DPC++ and create a dataset 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.

- **Drift-free Natural Navigation in VR** — London, UK
  Group Project Researcher — *Jan. 2021 - May. 2021*
  - **Fuzzing Framework**: Write a dissertation to propose the first fuzzing framework for DPC++ and create a dataset 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.

WORK EXPERIENCE

- **Smartsheet** — London, UK
  Software Engineer — *Jan. 2023 - Present*
  - **Golang Microserivces**: Develop backend API services using Golang CHI framework to support the sheet to get cell history data from S3 bucket.
  - **Data ETL**: Develop and maintain a service in Golang running on ECS clusters on a schedule to migrate data from relational Database to parquet files stored in S3 bucket.
  - **Terraform for AWS Infrastructure**: Design and use Terraform to create required infra such as S3, ECS clusters, SQS queues and telemetry services and using Terragrunt to deploy them onto different environments.
  - **GitLab CI/CD Pipeline**: Create a deployment pipeline in GitLab which run through the validation steps and deployed to ECS clusters when triggered.

- **Spotify** — London, UK
  Backend Engineer — *Jun. 2022 - Sept. 2022*

- **Microserivces with gPRC**: Develop backend API services using internal Apollo framework and gRPC to support music providers and Spotify operatives for accelerating music delivery.
  - **Testing Improvement**: Write technical document which suggests possible testing improvements for the squad and improve the code coverage from 75% to 90%.
  - **Slack Workflow Integration**: Implement a message notification workflow in Slack to notify Spotify operatives the status changing of their stakeholders.

- **R3** London, UK
  Solution Engineer *Jun. 2021 - Sept. 2021*
  - **Kotlin & Java**: Use Kotlin and Java to implement a framework using Intel SGX confidential computing enclave to safely match data from different clients.
  - **Conclave**: Contribute to the Conclave example codebase and is used for current commercial sale process.
  - **Corda Certificatied**: Qualified from both internal examination and certification examination.

- **Healios** London, UK
  React Native Developer *Dec. 2020 - Jun. 2021*
  - **React Native & TypeScript**: Use React Native Framework and TypeScript to develop a NHS app called *ThinkNinja* for children from 10 to 18 years old and allow them to learn mental health and emotional wellbeing.
  - **Redux and Redux-Saga**: Use Redux to maintain and transient the app state and using Redux-Saga as the Redux middleware to handle the side effect of the application.
  - **Internationalization**: Implement the internationalization framework to support multiple languages and creating the customized Text component which allow other developers to use them as international language label and replace the display in configuration files.
  - **TestFairy**: Using and maintaining the TestFairy tool to provide app distribution within the developing team and create continues integration pipeline for app build.

- **EMIS Health Group** London, UK
  Analytic Team Software Developer *Jun. 2020 - Sept. 2020*
  - **Node.js and TypeScript**: Use Node.js to produce a middleware to generate a many-to-many mapping between two service components within the EMIS Clint project and publish it onto the company code base.
  - **API Platform**: Create and deploying the internal-used API onto Amazon Serverless services and implementing the Jest test to ensure the robustness from high coverage test suit.
  - **AWS Cloud Services**: Use AWS CloudFormation to maintain DevOp pipelines and DynamoDB schema for the project on the cloud, AWS IAM strategies are used for ensuring the minimum access control.

TECHNICAL SKILLS

- **Programming Languages**: Java, Golang, JavaScript, C/C++, Python

- **Tools and Technologies**: Docker, Terraform, SQL, Git, Shell Scripts, Datadog, OpenSearch, LaTeX

- **Cloud Platforms**: AWS, Google Cloud

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