Ulysses Kee

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Education

National University of Singapore — Singapore, SG
MS in Computer Science (First-Class Honours) — Jan. 2021 – Jan. 2023
Thesis: Algorithmic Trading with Case Based Reasoning and Multi-Agent Systems

University of Warwick — Coventry, UK
Bachelor of Science in Management with Finance (First-Class Honours) — Oct. 2017 – Jul. 2020
Relevant Courses: Econometrics, Database Systems, Data Science, Investment Management, Statistics

Experience

Research Engineer | Chainlink Labs | Remote — Sep. 2023 – Present
- Building DECO, a privacy-preserving oracle protocol.

Data Engineer Intern | Binance | Remote — Feb. 2023 – Aug. 2023
- Built real-time ETL pipelines using Kafka and Flink for multiple business units including spot and derivatives.
- Developed Airflow DAGs to effectively orchestrate Spark operator jobs for batch data syncing.
- Reduced query latency for a view from $>$ 1 min to ~15 seconds by introducing a snapshot table built using Flink.

Research Intern | Singapore Blockchain Innovation Programme (NUS) | Singapore — Aug. 2022 – Feb. 2023
- Refactored the codebase of Verazt (a static analysis tool) to increase the extensibility of the web-based editor.
- Developed a call graph visualization tool in React used for analyzing the structure of Solidity smart contracts.
- Developed a parsing expression grammar (PEG) using pest to parse semantic tests from Solidity in Rust.

Software Engineer Intern | Cloudflare | Singapore — Dec. 2021 – May. 2022
- Developed FlareTools, a web application, for customers to easily setup zone configurations and comparisons.
- Developed a set of REST API services on Cloudflare Workers to interface with the Cloudflare v4 APIs.
- Presented my project in a global company-wide meeting and published a blog about it.

Data Analyst | Canopy | Singapore — Jul. 2020 – Jun. 2021
- Reduced data reconciliation times by $>$ 20% by improving automated parsing coverage of different custodians.
- Developed Python scripts for transforming parsed raw data into accessible formats for downstream processing.

Teaching

Graduate Teaching Assistant | NUS School of Computing | Singapore — Jan. 2022 – Dec. 2022
- Software Engineering on Application Architecture (IT5007): Prof. Prasanna Karthik Vairam
- Software Development Fundamentals (IT5001): Prof. Alan Cheng

Projects

Dec-id | TypeScript, Python, Circom, IC3 Blockchain Camp '23 (2nd place) — Jun. 2023
- Developed an anonymous credentials granting system using Zero-Knowledge Proofs and Chainlink's DECO.

Octoplorer | TypeScript, Python, ETHGlobal Tokyo Hackathon (Finalist) — Apr. 2023
- Developed a blockchain explorer which uses natural language queries as input and displays intuitive human readable answers in the form of text, tables, or charts on a React frontend.

P2P Distributed Game | Java, Distributed Systems — Sep. 2022 – Oct. 2022
- Developed a peer-to-peer distributed and multithreaded maze game in Java using Java RMI.

Definitional Interpreter | JavaScript, Scilla, OCaml — Jan. 2022 – Apr. 2022
- Developed a definitional interpreter and type checker for Scilla in JavaScript.

Skills and Achievements

Achievements: IC3 Blockchain Camp '23 (2nd), ETHGlobal Tokyo '23 (Finalist)
Languages: Python, JavaScript/TypeScript, Go, SQL, Java, Rust, OCaml, C/C++, HTML/CSS
Frameworks: React, Node.js, Express, GraphQL, Docker, LaTeX, Hadoop, Spark, Airflow, Flink, Kafka
Databases: MongoDB, MySQL, Hive, Clickhouse, StarRocks