Ulysses Kee

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Work Authorization: US (H1-B1, no petition required)

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

Data Engineer Intern — Remote, SG
Binance — Feb. 2023 – Aug. 2023
- Working on the **Real-Time Data Platform** team, responsible for building data pipelines using Kafka, Airflow, and Flink.
- Developed Airflow DAGs to effectively coordinate Spark operator jobs, automating **daily batch data syncing**.
- Working on building **ETL pipelines** in Flink for real-time data synchronization from Kafka topics into target tables in StarRocks.

Research Intern — Singapore, SG
NUS - Singapore Blockchain Innovation Programme — Aug. 2022 – Feb. 2023
- Refactored the frontend UI of Verazt, a **static analysis** tool used to automatically find security bugs and vulnerabilities in smart contracts.
- Developed a **call graph visualization tool** used to analyse the structure of Solidity smart contracts.
- Developed a **parsing expression grammar (PEG)** used for the parsing of semantic tests from the official Solidity repository into internal Rust data structures using the pest parser.

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

Software Engineer Intern — Singapore, SG
Cloudflare — Dec. 2021 – May. 2022
- Developed FlareTools, a **web-based application**, to help internal teams and partners gain better visibility over product configurations, and copy configuration records and settings easily.
- Presented my project in a **global** company-wide meeting and published a blog about it.

Data Analyst — Singapore, SG
Canopy — Jul. 2020 – Jun. 2021
- Worked with Python to clean and transform parsed raw data into a standardized format used for downstream financial analysis and processing.

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 maze game in Java using Java RMI and implemented mutual exclusion between threads via locks.

Definitional Interpreter | *JavaScript, Scilla, OCaml* — Jan. 2022 – Apr. 2022
- Developed a definitional interpreter and type checker for Scilla (an intermediate-level language smart contract language developed for the **Zilliqa** blockchain) in JavaScript.

TECHNICAL SKILLS

Languages: Python, JavaScript/TypeScript, Java, Rust, OCaml, C/C++, SQL, HTML/CSS
Frameworks: React, Node.js, Express, MongoDB, GraphQL, Docker, LaTeX, Hadoop, Spark, Airflow, Flink, Kafka