Allen Han

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EXPERIENCE

Moment   New York, NY
Software Engineer   July 2023 - Present

Lithic (Privacy.com)   New York, NY
Software Engineer II, Treasury   Jan. 2022 - July 2023
- Spearheaded the greenfield design and development of Lithic's ledger; filed patents for novel ideas
  - "Processing Transactions with Idempotency in Real-Time Ledgers", *US Patent No. 17/949,012; filed Sept 20th, 2022; listed as 1st inventor*
  - "Processing Privacy-Protected Virtual Bank Account Transactions Based on Dual-Table Ledgering", *US Patent No. 17/948,988; filed Sept 20th, 2022; listed as 2nd inventor*
- Modeled chart of accounts, funding flows and authored authorization from balance feature to enable Lithic Send
- Wrote a finite state machine to translate ISO 8583 card transactions into financial postings to the ledger in **Python**
- Owner of the ledger's reconciliation and remediation process ensuring accurate balances and transactions across millions of cards

Software Engineer I, Core   July 2021 - Dec. 2021
- Implemented CVV1 validation for magnetic stripe transactions in **C++**, improving integrity and reducing fraud"
- Automated the process of recovering bounced ACH funds by properly handling notification of changes from the counter-party bank
- Investigated and patched phantom cached cash balance bug in the legacy ledgering system preventing further loss
- Significantly improved compliance reporting to banks and network partners by consolidating disparate reports into managed **Airflow**

Interactive Media Labs (Centivizer)   Toronto, ON
Software Engineering Intern   Sept. 2020 - Jun. 2021
- Optimized API calls and **SQL** queries, decreasing peak database load by 30%
- Designed data collection portal using **React** and created corresponding backend using **Node.js**

Bibliocommons   Toronto, ON
Junior Platform Engineer   Dec. 2019 - Aug. 2020
- Built a REST API portal using **Node.js** and **React** following the OpenAPI 3.0 standard
- Developed and maintained metadata caching service using **Java Spring Boot**
- Validated functionality with **Selenium**, **JUnit**, and **TeamCity**

Junior Infrastructure Engineer   May 2019 - Nov. 2019
- Used **Ansible** and **TeamCity** to setup a full **CI/CD** pipeline (build, test, and deploy)
- Dockerized microservices and improved monitoring with **Prometheus** and **Grafana**
- Optimized **ETL** pipeline that migrates data between environments, decreasing processing time by 20%

Department of Computer Science, University of Toronto   Toronto, ON
Teaching Assistant, Introduction to Computer Science   Jan. 2019 - May 2021
- Instructed over 30 students at a time on topics such as object oriented programming, linked lists, recursion, and binary search trees using **Python**

TECHNICAL SKILLS

Languages: Python, SQL, Java, C++
Frameworks and Tools: Pulumi (AWS), Airflow, Docker, Pydantic, FastAPI, jPOS

EDUCATION

University of Toronto   Toronto, ON
Honours Bachelor of Science in Computer Science (GPA: 3.52/4.00)   Sept. 2016 - Jun. 2021