Marcus Tan

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Experience

Founder - Zenith, zenitharcade.com, Vancouver, BC, Canada. (Jun. 2024 - Present)   **Javascript**
Zenith imports and leases specialized arcade machines from Japan.

- Imported, sold and leased over $200K worth of arcade cabinets to individuals and businesses across Canada.
- Developed hardware and software for a custom card reader and point of sale system to manage arcade credits in a commercial setting. Built front and back end software to manage payments, metrics and bookkeeping.
- Operated a private arcade. Built an accompanying online booking system allowing customers to reserve their time in advance.

Software Engineer - Apple, Cupertino, CA. (Oct. 2022 - Jun. 2024)   **Objective-C**
I worked on a low-level on-device networking daemon whose clients include FaceTime and Shareplay.

- Owned the component responsible for passing spatial persona data in FaceTime calls on VisionOS. Worked intensively with QA to polish call experience leading up to the launch of the VisionPro.
- Supported a feature to add end-to-end encryption to previously unprotected metadata packet headers.
- Re-factored a key component responsible for managing media encryption key rolling and distribution logic.
- Implemented various metrics to measure connection speed and call quality in FaceTime calls.
- Debugged memory leaks with ASAN, preventing app crashes in edge cases.

Software Engineer - SGNL.ai, sgnl.ai, Palo Alto, CA. (Apr. 2022 - Jul. 2022)   **Golang, Python**

- Built a prototype data pipeline to ingest company information from various sources into a Graph database.

Software Engineer - Rubrik, rubrik.com, Palo Alto, CA. (Oct. 2020 - Feb. 2022)   **Scala, Python**
I supported the backup and recovery of VMware virtual machines via the Rubrik platform.

- Built new integrations allowing Rubrik to support virtual machines backed by third party Flash Arrays (Pure Storage & Dell EMC.)
- Optimized metadata persistence workflows utilized during replication in order to improve garbage collection performance and reduce Rubrik's memory footprint.
- Rewrote end to end tests and infrastructure in order to improve build quality. Improved component test pipeline pass rate from ~70% to 100% which resulted in faster and more qualified builds.

Software Engineer Intern - Rubrik, rubrik.com, Palo Alto, CA. (May. 2019 - Aug. 2019)   **Golang, Scala, Python**

- Designed and deployed a Go Thrift server to service internal company VMware API usage. Created API endpoints to support vSphere tagging and I/O filtering. Implemented persistent session management.
- Pushed features to to the Govmomi open source library in order to support specific VMware API endpoints.
- Wrote command line tools, unit testing suites and design documents to ensure project maintainability.

Software Engineer Intern - Rubrik, rubrik.com, Palo Alto, CA. (Sept. 2018 - Dec. 2018)   **Scala, C++, Python, Bash**

- Created a feature to enable the recovery of enterprise systems utilizing external data encryption protocols. Accomplished this by implementing extended attribute restoration for VMware virtual machines.
- Supported this feature for both Windows and Linux and implemented multiple ways for customers to recover their data.

Education

B.Sc Hons, Computer Science, The University of Toronto, Toronto, ON. (2015 - 2020)

- Data Structures & Algorithms, Operating Systems, Functional Programming, Artificial Intelligence
- Teaching Assistant: Computer Organization, Systems Programming, Web Programming

Skills

Languages   Python, C, Objective-C, C++, Scala, Java, Go, Javascript, Bash