

# Marcus Tan

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## Education

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**B.Sc Hons, Computer Science**, The University of Toronto, Toronto, ON. [2015 - 2020]

- Data Structures & Algorithms, Operating Systems, Functional Programming, Artificial Intelligence

## Experience

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**Software Engineer - Rubrik**, Palo Alto, CA. [Oct. 2020 - Present]

**Scala, Python**

Working to support the backup and recovery of VMware virtual machines.

- Built new integrations allowing Rubrik to support virtual machines backed by third party Flash Arrays (Pure Storage & Dell EMC.) Implemented end to end and unit test suites for this feature.
- Optimized metadata persistence workflows utilized during replication in order to improve garbage collection performance and reduce Rubrik's memory footprint.
- Revamped the VMware teams end to end tests and infrastructure in order to reduce flakiness. Improved internal test pipeline pass rate from ~70% to 100% in order to qualify Rubrik's 5.3 and 6.0 releases.

**Software Engineer Intern - Rubrik**, 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 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 longevity.

**Software Engineer Intern - Rubrik**, 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 VM's. Customers could choose to recover their workloads through either VMware tools or the Rubrik agent.

**Teaching Assistant - The University of Toronto**, Toronto, ON. [Jan. 2018 - Jan. 2020]

- Computer Organization [2018], Software Tools & Systems Programming [2019], Programming on the Web [2019]

**Software Engineer Intern - ParseHub**, [parsehub.com](https://parsehub.com), Toronto, ON. [Nov. 2017 - Apr. 2018]

**Javascript (Angular)**

- Applied performance optimizations to a distributed web scraping as a service solution.
- Iteratively developed various front end features based on user testing in order to improve usability.

**Software Engineer - Brizi**, [brizicam.com](https://brizicam.com), Toronto, ON. [May. 2014 - Dec. 2015]

**Javascript (Angular)**

- Created web apps allowing fans to view a drone livestream, take a photo and share it to social media.
- Designed a multi queueing system using Redis to distribute user snapshot requests among numerous cameras, allowing users from different locations to take photos concurrently.
- Architected an API using the MEAN stack to manage users, snapshots, payments and Cloudinary image filters.

## Projects / Achievements

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**WomboCombo - Winner of the Teach Category: Riot Games Hackathon**, [2017]

**Javascript (Vue)**

- An input visualization tool for a hackathon focussed on improving League of Legends player experience.

**SoundCloud Downloader**, [github.com/invogwer/soundcloud-downloader](https://github.com/invogwer/soundcloud-downloader), [2017]

**Javascript (Phantom)**

- A tool to scrape large sets of mp3 files in parallel from a given stream. Used FFmpeg to write metadata.

## Skills

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### Languages

Python, C, C++, Scala, Java, Go, Bash, SQL, Javascript, HTML/CSS

### Technologies

VMware, Cassandra, Redis, MongoDB, Web Scraping