

Vivitsu Maharaja

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EDUCATION

Master of Science, Electrical & Computer Engineering
University of Florida, Gainesville, FL.

May 2014
GPA: 3.33/4.0

Bachelor of Engineering, Electronics & Communication
Dharmsinh Desai University, Nadiad, India.

May 2011
GPA: 62/100

EXPERIENCE

Software Development Engineer, Amazon Web Services, Seattle, WA

Jul 2016 - Present

- **Transactional Services**

Aug 2020 - Present

- Improved stream transaction throughput by making the transaction buffer in the streaming service thread-safe.
- Improved JVM heap memory usage of the streaming service by moving buffers to off-heap memory.
- Switched the database snapshot storage format from GZIP to LZ4 compression, leading to faster upload times during backup, and faster restore times during bootstrap.
- Benchmarked effects of LZ4 compression on CPU utilization and network throughput in a variety of backup and restore scenarios.
- Benchmarked effects of partitioning data within our storage layout (using a consistent hashing scheme) on read/write throughput and database snapshot restore times.

- **SDKs and Tools**

Jan 2018 - Jul 2020

- Worked on AWS' internal SDK release automation platform, which was responsible for orchestrating SDK release workflows, such as linting and validating AWS service models, release schedule management and compliance with AWS API guidelines. Apart from working on the orchestration service, I was also involved in the operational readiness and security review of the platform.
- Significantly improved the platform notification layer, to communicate upcoming launch deadlines, reviewer churn, and enforce that launch action items are complete, e.g. testing new SDK versions before release.
- Improved integration with SDK build systems by building a metadata specification API, using which SDK teams can customize their build systems, e.g. specify branches related to specific service builds in SDK codegen repos, service specific configuration for individual SDKs, e.g., PowerShell, etc.
- Identified bottlenecks in our service's day-to-day operations, and contributed to goals for reducing the operational load and oncall activities for the service.
- Led the security and operation readiness review for our service, which includes classifying all known architectural and operational security, latency and availability risks, and coming up with a plan to mitigate them.

- **Amazon Workdocs**

Jul 2016 - Jan 2018

- Designed & implemented a web publishing pipeline for the Amazon WorkDocs product blog using the Jekyll framework - <https://blog.amazonworkdocs.com/>.

Software Engineer, LendingHome, San Francisco, CA

Feb 2015 - Jul 2016

- Designed & implemented a framework to schedule ETL (Extract, Transform, Load) pipelines. Using this framework, we were able to improve performance of our existing pipelines by more than 100%.
- Developed & maintained a web service using Tesseract to automatically perform OCR on documents that are uploaded to the platform. The OCR-ed documents are then annotated by underwriters & auditors to speed up loan processing.

Software Engineer, Applied Intelligence, IO Data Centers, San Francisco, CA

Sep 2014 - Feb 2015

- Developed data processing pipelines using **Apache Pig** to analyze sensor data gathered from colocation centers.

Embedded Engineer, Volansys Technologies, Ahmedabad, India

November 2011 - July 2012

- Developed & maintained a **USB 2.0 (EHCI)** driver, to allow clients on a LAN to boot using an USB to Ethernet adapter, including interfacing with the **PCI** & **BIOS** subsystems in order to manage the host controller **state machine** & maintain driver compatibility with adapters from multiple vendors.

PROJECTS

URL Shortener using C, JavaScript

November 2019

- Implemented a URL shortener in C in my spare time. The goal for this project to improve my C and web development skills, while using minimal external dependencies or libraries.

SKILLS

- Programming Languages: Comfortable in Java and Kotlin. Familiar with C and Python with a little experience in Ruby and JavaScript