Aseem Thakkar

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EXPERIENCE

Microsoft — Redmond, USA

Software Engineer — **July 2020 - Present**

Worked on **Microsoft Cosmos**, a first-party, **exabyte-scale distributed storage and big data processing system** for internal telemetry data and distributed jobs, **supporting 250 PiB/day ingestion**. Contributed to the team responsible for storage media management and maintenance of storage nodes.

- **Automation for Maintenance Processes:** Independently **designed and developed a ground-up automation service** to eliminate manual interventions for scheduling and executing hardware maintenance tasks.Collaborated across teams and integrated with APIs to streamline operations, minimizing human errors from late-hour interventions and **saving approximately 40 developer hours per week.**
- **Latency Tracking and Write Prioritization:** Built a latency tracker to monitor read/write speeds across server storage media, enabling dynamic prioritization of new writes. This helped **reduce hotspots and balanced workload across drives.**
- **Service Optimization:** Identified and resolved inefficiencies in server file status communication by introducing a custom data structure and optimized sorting algorithm. **Reduced CPU utilization by 30% every 10 minutes** allowing increased data ingress capacity.
- **Cost Optimization for Storage Media:** Developed an alternative lifecycle management approach for temporary data generated during Spark and Hadoop job execution. Analyzed telemetry to optimize storage of intermediate job data, introducing mechanisms to swap and de-stage data from high-cost to low-cost storage media. Achieved significant cost savings and **increased SSD free space capacity by 20%**.
- **Initiated and hosted a code deep dive series** to onboard and empower a global team handling critical on-call responsibilities during non-business hours.
- **On-Call Responsibility:** Proactively managed on-call duties, diagnosing and resolving critical incidents. Enhanced system reliability by refining monitoring, delivering detailed post-incident analysis and presentations to drive continuous improvements, tweaking configurations for strategic feature enablements/disablements.

University of Florida — Gainesville, FL

Research Assistant — **May 2019 - May 2020**

- **Designed and developed a health monitoring framework** for the UF Health and Aging Department patients.
- Hosted and managed the data on Amazon Relational Database Service(RDS) servers and wrote AWS Lambda functions for collecting data from patients' smartwatches. Currently deployed in a test group of 30 patients.
- **Developed iOS and Apple Watch apps** for real-time patient monitoring and collecting patient-specific health surveys.
- Researched and implemented machine learning models like CNN, RNN, and LSTM to find correlations between symptoms and health data and surveys. Technologies used: Swift, SQLite, PHP, Android, Amazon AWS, Firebase, Pytorch, Keras.

PROJECTS

ReadFaster - HackGT5 winner | Android, Firebase, SQLite — Oct 2018

- Developed an **Android app** that improves reading speed by using the Rapid Serial Visual Presentation (RSVP) reading technique.
- Coded a naïve epub file parser and implemented the RSVP technique to show the contents of the epub or pdf files.
- **Won at HackGT hackathon** at Georgia Tech University (Among the top 8 submissions).

VR Drive Simulator | Unity3D, Raspberry Pi, Android VR — May 2018

- Developed a **Virtual Reality driving simulator** to test driving skills of users.
- **Built custom hardware setup** for collecting input using gyroscope and accelerometer sensors.
- Developed VR simulated road scenarios in Unity3D to evaluate user's driving skills in Virtual Reality.
- **Awarded funding and won at the Gujarat University showcase**. Worked in a team of 4.

EDUCATION

Master Of Science - Computer Science — **GPA: 3.67/4.0**

University of Florida, Gainesville, Florida — Aug 2018 - May 2020

Bachelor Of Engineering - Information Technology — **GPA: 8.46/10.0**

BVM Engineering College, Anand, India — Aug 2014 - May 2018