TONY JOSEPH

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Summary

Master's in Computer Science student with solid experience in Software Engineering seeking full time positions from May 2020.

Education

Syracuse University, New York, U.S.A	MS in Computer Science	3.8 GPA	Aug 2018 - May 2020
Govt. Model Engineering College, Kerala, India	B. Tech in Electronics		Sep 2008 - Apr 2012

Academic Courses

Object Oriented Design • Advanced Analysis and Design of Algorithms • Social Media Data Mining • Operating Systems • Neural Program Learning

Technical Skills / Interests

Languages	Java • C++ • C • TypeScript • JSON • JavaScript • HTML • Python
Frameworks/Tools	Core Java • Spring • NodeJS • Microservices • Zookeeper • Docker• Kafka • Git • Gradle • Knockout JS • REST

Academic Projects

Multi-User Test Harness [Languages/Frameworks: C, C++, C#, CLI, Boost] Visual Studio Repository   Aug 2018 - Dec 2018
- Designed and implemented a process pool framework using C++ which created multiple child processes and assigned work to each on availability using request and ready queues to make the system decoupled and asynchronous, exercising all SOLID design principles.
- Implemented a TCP based communication channel for inter-process communication between requester, child and mother processes.

Nachos Operating System Features [Languages: C, C++]   Jan 2019 – May 2019
- Implemented an MLFQ scheduler and a virtual memory management module with Inverted Page Table and software TLB (Extra credit).
- Designed and implemented a Log structured filesystem module and implemented extensible files in the filesystem module.

Neural Program Learning Projects [Languages/Frameworks: Python, NumPy, TensorFlow]   Jan 2019 – May 2019
- Implemented a project which leverages Neural Turing Machine using TensorFlow to find Eulerian path in graphs (GitHub Repository).

Work Experience

NetApp Inc., Sunnyvale   **Software Engineer Intern**   Jun 2019 - Aug 2019
Product: **ONTAP**
[A storage centric OS for NetApp's Storage Arrays]
- **Replacing the 8.3 Naming algorithm in WAFL Filesystem [Languages/Frameworks: C, C++, GDB]**
  - The 8.3 naming algorithm is invoked whenever a file is created copied or renamed.
  - Came up with an algorithm which performs 60% faster than the existing algorithm and generated 8.3 names similar to the actual name.
  - Leveraged a custom LRU for looking up frequently used names based on system time and number of replacements.
  - The new algorithm did 80% less searches and collisions were reduced by a factor of 10.
  - Integrated code back into ONTAP OS and did preliminary testing. The new algorithm will be part of the next release.

Oracle India PVT Ltd   **Senior Applications Engineer**   Nov 2014 - Aug 2018
Product: **Oracle Service Cloud**
[A SAAS cloud-based CRM and ERP for enterprise organizations]
- **Enterprise Messaging Microservice Design and Architecture [Languages/Frameworks: Java, Kafka, Docker, CXF, Consul, Gradle, JSON]**
  - Designed and developed a Microservice base framework with enterprise messaging capability using Java and Jersey to enable easy development of new microservices by extending this framework in Gradle.
  - Developed a multithreaded Java application to monitor message latency in Kafka and hooked these jobs into slack for monitoring.
  - Created a tool for deletion of configured Topics from the Kafka server using Java Multithreading for improved stability.
  - Designed and implemented a report navigation framework using a tree structure for caching different levels of report navigation.
- **Analytics Backend Framework Design [Languages/Frameworks: Java, Spring, Knockout JS, Node JS, JSON, Oracle Jet]**
  - Developed a back-end framework using Generics to convert user data into graphs, plots and charts at scale.
  - Implemented a quick filter module using KnockoutJS and observer pattern to quickly filter huge datasets.
  - Co-created a component factory using factory pattern to produce reusable and configurable input components used across the products.
  - Designed a validation framework using visitor pattern to validate any component tree by just passing the root UI component object.

Tata Consultancy Services   **Systems Engineer**   Jun 2012 – Oct 2014
Product: **Qantas UATP Portal**
[Universal Air Travel Plan user management system primarily for the staff of Qantas Airways]
- **UATP Cards User Management Portal Development [Languages/Frameworks: Java, JavaScript, WebLogic, EJB, Spring, SQL]**
  - Made performance improvements using JProfiler reducing the startup time of application by 2 seconds.
  - Developed a module using Java multithreading to catch failed requests and asynchronously retry them on priority basis.
  - Implemented an automated mailing system using Database triggers and JAVAX mail for notifying users.

Hackathon Projects

Application Feedback Tool [Languages: Java, Typescript, JavaScript, NodeJS]
- Developed a feedback tool within the application which can capture screenshots and videos along with reporting a bug in the application effectively replacing a long workflow to report a bug in the Software.

Versioning for Report Definitions [Languages: Java, Typescript, Git]
- Developed a versioning system for reports using git APIs, allowing to track changes made to the report over time using git API.

Extracurricular

Singing • Travelling • Throw away coding • Teaching Volunteer at Make A Difference