

# Kanth Kumar DAYANAND

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## EDUCATION

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- MAY 2017 Master of Science in COMPUTER SCIENCE GPA: 3.70/4.00  
**Rochester Institute of Technology**, Rochester, New York  
COURSE WORK: Foundation of Algorithms, Distributed Systems, Advanced Algorithms, Parallel Computing, Web Services & SOA, Foundation of Computer Networks
- JUNE 2012 Bachelor of Engineering in INFORMATION SCIENCE GPA: 3.42/4.00  
**University Visvesvaraya College of Engineering**, Bangalore, India

## TECHNICAL AND PROGRAMMING SKILLS

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Programming Languages: Java, GoLang, Python, JavaScript, C and C++  
Frameworks & Tools: Spring, RxJava, Temporal, Akka, Map-Reduce, Mockito, Git  
Web: gRPC, RESTful, SOAP, NodeJS, AngularJS, Bootstrap, HTML5 and CSS  
Databases: Memcached, MongoDB, SQL, MySQL, JDBC

## WORK EXPERIENCE

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| FEB 2022 -<br>PRESENT   | <p>Software Engineer at STRIPE, San Francisco, California<br/><i>Distributed Caching &amp; Edge</i></p> <p>DRI for designing and building Cache Warmer service, enabling seamless zero-downtime replacement and resizing of ephemeral data plane nodes. Go, gRPC, Temporal</p> <p>Contributed significantly to the design and development of client SDKs and a gRPC service for accessing cache clusters. Java, Go, gRPC, Memcached</p> <p>Successfully onboarded 15+ internal customers to the new caching platform, resulting in a &gt;50% reduction in their overall p99 latency.</p> <p>Currently designing and implementing a quarantine sharding technique at the edge to mitigate the impact of noisy neighbor issues on upstream services. Go, gRPC</p>   |
| JUNE 2019 -<br>FEB 2022 | <p>Senior Software Engineer at APPLE, Cupertino, California<br/><i>Siri Experience (Music and Photos domains)</i></p> <p>Worked on re-writing the music domain on a new search architecture to improve the Siri music search quality and performance. GoLang</p> <p>Developed a new A/B testing framework for Siri server experiments, enabling faster iteration cycles for new feature releases across multiple Siri domains.</p> <p>Responsible for delivering and improving multi-user music search experience, implementing web images search hand-off experience on HomePod.</p>   |
| JULY 2017 -<br>MAY 2019 | <p>Senior Software Engineer at INTUIT, San Diego, California<br/><i>TurboTax (Core Tax Services)</i></p> <p>Implemented an encryption feature to generate a unique UUID for supporting the de-duplication of tax documents imported into TurboTax. Java</p> <p>Designed new REST APIs to support creating, updating, and retrieving estimated tax payments and extension artifacts and an API to support e-filing both federal and state extensions. Java, Spring</p> <p>Worked on creating a new version of java library that supports create, update and list operations on tax, user experience, and commerce artifacts for TurboTax online. Java, Spring</p> <p>Implemented a new rest endpoint for enabling TurboTax customers to successfully delegate their tax returns to tax experts. Java, Spring</p> |
| JUNE 2016 -<br>DEC 2016 | <p>Software Engineer Co-op at INTUIT, San Diego, California<br/><i>TurboTax</i></p> <p>Developed a tool for cross-checking the Jira issues with GitHub commits to automate the pre-release activities of our backend services. Java, Spring, Bootstrap</p> <p>Worked on implementing the Circuit-Breakers for Java services to enable resilience using Hystrix.</p> <p>Implemented asynchronous caching to store financial document providers information and reduced our service response time by ~2seconds</p> <p>Worked on adding the new features to Java Services for importing customer tax documents to TurboTax. Java, Spring-Boot.</p>   |

SEPT 2015 -	Graduate Research Assistant, Rochester Institute of Technology
MAY 2016	Designed and developed a website ( <a href="#">PencilPuzzle</a> ) for listing the puzzles and lab assignments related to introductory Computer Science topics. AngularJS, Bootstrap
JUN 2015 -	Software Engineering Intern at CISCO, San Jose, California
AUG 2015	<i>VxLAN - Virtual Extensible LAN</i> Developed a CLI command for comparing the run-time configs with the configs stored in <i>In-memory</i> database and Implemented a consistency check feature for <i>VxLAN</i> component deployed in dual homed environment - <i>vPC</i>

## PROJECT WORK

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### Code clone detection: using Program Dependence graphs

Designed and implemented a tool to represent the *Java* programs as graphs and used network alignment algorithm to identify code clones. Java8, Antlr4.

### Dataflow Network

Developed an infrastructure using Akka concurrency framework allowing the users to write sequential programs that forms the computational "vertices" of a dataflow network and communicate via channel specified as "edge". Java, Akka

### HyperLogLog - Near optimal cardinality estimation algorithm

Implemented HyperLogLog algorithm for approximating the cardinality of large data sets using Map-Reduce paradigm.

### Distributed File System

Implemented a *Hadoop* like Distributed File System. Features include basic File System commands (*mkdir, ls, put, get*), File Namespace, Block Replication, Fault Tolerance using *HeartBeat* mechanism. Java

### Ricart and Agravala - Mutual Exclusion Algorithm for Distributed Systems

Implemented a mutual exclusion algorithm to control the process entering into Critical section on a distributed system.

## SCHOLARSHIPS AND AWARDS

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RIT 2014	30% waiver in tuition fees as merit scholarship.
UNISYS 2013	<i>Innovative Thinker</i> award for designing and developing the iOS app