

# 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, JavaScript, Python, C and C++  
Frameworks & Tools: Spring, RxJava, Hystrix, Akka, Map-Reduce, Mockito, JMockit, Git  
Web: NodeJS, RESTful, SOAP, AngularJS, Bootstrap, HTML5 and CSS  
Databases: MongoDB, SQL, MySQL, JDBC

## WORK EXPERIENCE

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- JULY 2017 - PRESENT Software Engineer 2 at INTUIT, San Diego, California  
*TurboTax (Core Tax Services)*  
Working on adding new features to Java services (Spring-Boot) to create, modify, parse & list customer tax documents and document information for TurboTax online. Java, Spring Boot.  
Implemented new REST endpoint for enabling customers to delegate their tax-return to tax expert. Java, Spring
- JUNE 2016 - DEC 2016 Software Engineer Co-op at INTUIT, San Diego, California  
*TurboTax*  
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  
Worked on implementing the Circuit-Breakers for Java services to enable resilience using Hystrix.  
Implemented asynchronous caching to store financial document providers information and reduced our service response time by ~2seconds  
Worked on adding the new features to Java Services for importing customer tax documents to TurboTax.
- SEPT 2015 - MAY 2016 Graduate Research Assistant, Rochester Institute of Technology  
Designed and developed a website ([PencilPuzzle](#)) for listing the puzzles and lab assignments related to introductory Computer Science topics. AngularJS, Bootstrap
- JUN 2015 - AUG 2015 Software Engineering Intern at CISCO, San Jose, California  
*VxLAN - Virtual Extensible LAN*  
Developed a CLI command for comparing the run-time configs with the configs stored in *In-memory* database.  
Implemented a consistency check feature for VxLAN component deployed in dual homed environment - vPC
- OCT 2012 - AUG 2014 Software Engineer (Consultant 4) at UNISYS, Bangalore, India  
*Unisys Content Management System (Infolmage)*  
Developed reusable Portlets and Plugins in Liferay portal. Java, JavaScript (D3.js), AJAX  
*uWork - Web client for document management system*  
Developed UI templates and client-side APIs for consuming RESTful services using JavaScript libraries.

## 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 user to write sequential pro-

grams that forms the computational "vertices" of 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

### **State Synchronization Protocol**

Implemented a UDP based protocol for transferring the file/text reliably by synchronizing states between the client and server. Features include Client *roaming*, *HeartBeat* mechanism. Java, Protocol Buffers

### **Content-Addressable Network (CAN)**

Implemented scalable, P2P *distributed system* that provides hash table functionality for searching files on internet-like scale. Features include Node join and leave, File insert and retrieval, Search query routing. 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**

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RIT 2014    30% waiver in tuition fees as merit scholarship.

UNISYS 2013    *Innovative Thinker* award for designing and developing the iOS app