

# Kanth Kumar DAYANAND

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## EDUCATION

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- Expected* Master of Science in COMPUTER SCIENCE GPA: 3.70/4.00  
MAY 2017 **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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- 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 Netflix 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 (InfoImage)*  
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, Javaslang, Antlr4.

### Dataflow Network

Developed an infrastructure using Akka concurrency framework allowing the user to write sequential programs 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	<i>Innovative Thinker</i> award for designing and developing the iOS app