

# Siddhartha Dutta

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## Education

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### Masters of Science in Computer Engineering

Aug 2010 – May 2012

- University of Florida, Gainesville, FL
- GPA: 3.83/4.00

### Bachelor of Engineering (BE) in Computer Science & Technology

Jun 2003 – Jun 2007

- Bengal Engineering & Science University, Shibpur, West Bengal, India
  - Average marks: 74% of total (First Class) Ranked within Top 5 in class of 39
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## Professional Experience

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### Sr. Software Engineer, Cerner Corporation, Kansas City, MO

Aug 2014 – Till Now

- Developed **Connect**, a clinical mobility solution that supports secure and fast communication, easy collaboration, and smart alert management workflows for the caregiver.
- Built from scratch highly scalable and highly available **micro services** in **Java** with distributed architecture to support the application. Integrated and leveraged the legacy services offered by Cerner
- Built the **JavaScript** clients necessary for the front-end to talk to our micro-services.(Over **WebSocket**).
- Implemented the session, presence and push notification services to ensure highest reliability in message and notification delivery.
- Worked on various performance improvement and strengthening tasks such as reducing the startup time of the services, faster request reply improved by caching and paging.
- Leveraged **Docker** containers running on **DC/OS** nodes with the distributed cache(**Hazelcast**) to improve performance.
- Implemented RESTful services in Java to communicate with JMS Services and service layer in Java.
- Designed, executed and gathered extensive load testing evidence to ensure scalability.
- Built capability and real time performance dashboard.

### Programmer Analyst, Egen Solutions, Inc.

May 2012 – Aug 2014

### Client: University of Michigan, Ann Arbor, MI

Jan 2014 – Aug 2014

- Workflow application using Spring Boot and Thymeleaf for data requests.
- The Medical School information services team is building a **SOA** backplane for research teams to make cohort requests for data. The challenge lies in that the data is spread across various databases maintained by different teams.
- Building the skeleton for the SOA backplane with **Apache Camel** as the enterprise service bus.
- Designing the **Splitter** based on the output of the **query parser** coding the endpoints of the **ESB** like the message handler and the aggregator and coordinating with various research teams for better understanding their needs and building the federated model.

### Client: NTT Data Inc, Boston, MA

Jul 2013 – Jan 2014

- Understanding the end to end architecture, configuration of **Health Rules** to set up the virtual machines and deploying the **EJBs** in the server to run with the customization

- Marketplace data coming as **inbound 834** to health rules needed to loaded through customized **iWay** channels and the web services deployed in the server
- Built both 834 outbound and customized outbound for different trading partners, built correspondence channel when enrollment or provider information changes Involved in business design meetings with BAs and subsequent tech design walk-through with architects

**Client: Jackson National Life Insurance, Franklin, TN**

Dec 2012 – Jul 2013

- Developed the dashboard for representatives to segment their clients. Technologies used are **JSF**, **core Java** and **Spring** framework with backend **DB2** database for OLTP and **Sybase** for OLAP Worked with product owner for creating feasible screens and functionality
- Specific modules developed were Client Segmentation by parameters like asset under management and gross revenue The advisors can setup the segment names and the corresponding segments and run the segmentation function. Setup and displaying welcome messages, user roles, Single sign on to the existing applications and displaying key performance indices portlets with drill-down

**Client: Healthcare Management Systems, Nashville, TN**

May 2012 – Dec 2012

- Developed the module for continuity of care using Swing, core Java along with Spring Framework
- Consumed **REST** and **SOAP** based web services from other modules for email interface for sending and receiving documents
- Writing test cases with **JUnit** for robust code and extensive debugging of the legacy application and database for production issues

**Graduate Research Assistant, University of Florida, Gainesville, FL**

Jan 2012 – May 2012

Project: Geo-Spatial Algorithm Implementation and Spatial Databases

- Partnering with Northrop Grumman for implementing Contour extraction algorithm for moving 3D objects
- Developing functions for converting various data formats like arc grid to gml used for representing spatial data
- Understanding and preparing the tech design document to plan the development
- Optimization of existing algorithms and exhaustive performance testing
- Technologies used **Java**, **JTS Topology Suite**, **Spring**, **Oracle 10G**, **TOAD**, **Eclipse**, **Tortoise SVN**, **JUnit**

**Graduate Intern, Innovative Scheduling, Gainesville, FL**

Aug 2011 – Dec 2011

- The project was to provide real time and static scheduling and route design solution to Conway, BHP Billiton and WalMart
- Developing Linehaul Execution System to dynamically route shipments to improve load factors, predictability and visibility of shipments
- Identification of hotspots and recommendations by simplification and unification of reporting
- Working on optimization of scheduling algorithms for periodic and frequent updates of the static plan to save costs
- Technologies used **Java**, **JSF**, **JMS**, **Hibernate**, **HQL**, **Spring**, **Oracle 10G**, **TOAD**, **HTML**, **CSS**, **XML**, **JavaScript**, **Web sphere Application Server 6.1**, **IntelliJ**, **Tortoise SVN**, **WSDL**, **JUnit**

**Summer Intern, Forensics Technology Solutions, PwC Advisory, San Francisco, CA**

Jun 2011 – Aug 2011

- Involved in gathering requirements, deriving functional requirements and system requirements from the Business Requirements.
- Writing SQL procedures and DAO in Spring to improve current processes and develop efficiencies for software licensing engagements

- Extensive implementation of web services in Java to connect the legacy applications to pull computed data from multiple sources
- Developed the code using **Spring Framework, JSF, JSP, AJAX, JavaBeans, Hibernate3.0, WebServices, Java Script, JMS, JNDI, XML, XSLT and HTML.**

***Consultant, Technology Advisory Services, PricewaterhouseCoopers, Kolkata, India***

Jul 2007 – Aug 2010

- Web Development using Java/J2EE technologies like **Java, JSF, Swing, JSP, JSTL, Servlets, JDBC, EJB, RMI, JMS**
- Development of decoders for network switches, Object oriented analysis and design of databases and their implementation
- **Integration of reporting** tools with data sources and generating **customizable MIS** reports and web application development
- Prepared **proof of concepts** and coordinated with clients for changes in requirement and status updates during development lifecycle
- Involved in coordinating training programs and interacting with college students across campuses in India

## **Tools and Technologies**

Languages:	Java, C, C++, JavaScript, SQL, PL/SQL, C#, MDX
Operating Systems:	Windows, UNIX, LINUX, Mac
RDBMS:	MySQL, Oracle-9i/10g/11g, MS SQL Server 2000/2005, Sybase IQ
S/W Utilities/Framework:	Spring Framework, JSF, Hibernate, Swing, Thymeleaf, EJB, JSP, Servlet, SAS, Pentaho, JMS, IBM MQ Series
Hardware:	Microprocessors 8085/86, AIR/CCN Switch
Web/App Servers:	Tomcat, JBoss, WebLogic, Websphere
IDEs:	IntelliJ, Eclipse, JBuilder and NetBeans
Version/Build control:	Git, SVN, CVS, Clearcase, TFS, Maven, Ant, NPM

## **Research Experience**

### **University of Florida, Gainesville, FL**

- **Token Based Mutual Exclusion:** Implemented the **Suzuki/Kasami Broadcast algorithm** to ensure serialized access by concurrent processes to shared resources or data using Java multicast facility while taking care of losses due to the network
- **Stock Exchange** simulation The project simulates **concurrency** and **synchronization** problem in real life stock exchange Multiple users can login and play a particular session Designed this mainly to exploit the high degree of concurrency at the exchange Successfully simulated an environment of 1 million traders who would be buying and selling at the exchange
- **Peer-to-peer network** for file downloading

### **Bengal Engineering & Science University, Shibpur | Howrah, India**

- **Assembler** for 8085 implemented in C
- **Expert systems** and **Classifier algorithms** with special emphasis on discretization techniques

### **Indian Statistical Institute | Kolkata, India**

- Received an extensive training on **File Systems**
- Implementation of **advanced data structures** for efficient database design

**Academic Achievements:** Ranked **387** amongst **500,000** examiners in the engineering entrance exam (WBJEE 2003) to gain a seat in the Department of Computer Science & Technology of Bengal Engineering and Science University, Shibpur