

## Prajwal Y Maredukonda

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I am a software engineer, and computer science graduate from the University of Massachusetts, Lowell. I have been programming professionally with Java, Python, SQL & C# for the last six years.



### Professional Skills

Primary Skills	JAVA-J2EE, Python, C, C++
Secondary Skills	HTML, SQL-PLSQL, C#, VB.Net, JavaScript, Orient DB
Frameworks	Struts, Spring, Hibernate, Apache Wicket, React.js, jQuery
Development Tools	Eclipse, NetBeans IDE, Visual Studio, MATLAB
Operating Systems	Windows, Linux & Unix, Android.

### Experience

#### Research Engineer | Philips | Apr 2016 – Jul 2017

Consultant for Cyber Innovations Team & Security Operations Center | IT - CISO | Andover, MA

Environment: Java, C#, VB.Net, Python, Orient DB, Spring, Apache Wicket, React.js

**Description:** Team is Responsible for protecting Philips IT against emerging cyberattacks. Exploring large-scale cyber datasets, developing attack and threat models, and prototype advanced cybersecurity analytics to detect, prevent and protect infrastructure. Identifying vulnerabilities that could allow hackers to retrieve confidential data or compromise products or associated services for unauthorized use or malicious attacks.

#### Threat Learning Platform

- Developed a platform for threat data, which stored and built entity-relationship models and visualize for various open source threat streams and internal SOC threat database.
- Using Spring 4.x and Apache Wicket frameworks developed an UI and Java backend to interact with Orient DB.
- Researched on various graph databases & open source tool Stucco, for collecting and parsing threat streams.
- Worked on creating indexes using Orient DB provided Lucene search engine core.
- Worked on designing graph visualizations using React.JS & Node.JS.
- Further improvements and features were in progress like inducing machine learning while storing within graph database to auto relate the threats, also to improve search by using SOLR and providing REST API access to the framework.

#### Threat Awareness & Training

- Researched on Microsoft exchange server add-on development, by developing an email exchange server prototype.
- Developed an MS Outlook client plugin (C#) that filters internal anti-phishing awareness emails reported by employees to security operations center into categories and differentiates them from normal email.

#### Anti-Phishing Platform for Microsoft Outlook

- Developed an Add-in, which notifies user when accessing outlook about suspicious values indicative of phishing.
- Designed a UI component that facilitated reporting an email as phishing and its relevant analysis to Security Operations.
- Developed system process that facilitated interactions (analyzing email with ML model) between C# plugin and Python.
- Researched email headers, developed an algorithm to analyze headers with team.
- Worked on developing Python based machine learning algorithms, which analyzed body and links in an email.

#### Software Engineer | SymbioSys Solutions Inc. | Concord, NH | May 2015 – Feb 2016

##### Project: New Hampshire State Unemployment Insurance

Environment: JSP, Servlets, JBDC, Oracle, HTML, CA Harvest, Adobe Robohelp, Spring & Hibernate

**Description:** SymbioSys Solutions, provide support services, maintenance and redesign for NHUIS, which includes a software tools for the Staff at NHES, Claimants (website to file and manage claims for eligible unemployed people for unemployment insurance) and Employers. To help them manage the Claims and with the “life cycle” of Unemployment Insurance claim and integrating it with related federal systems like SIDES, ICON hub and others.

#### Responsibilities:

- Supporting the existing NHUIS system through CV Harvest based enhancement and defects requests.
- Worked on Enhancing existing NHUIS to reflect changes in updated RESEA program of United States Labor Dept.
- Designed and developed user help and provided input in the content of help guide for the applications.
- Worked on redesigning existing system to Spring framework, Hibernate & HTML5 platform which is currently live on claimant and wage-intake websites available in New Hampshire.
- Worked on maintaining Section 508 and W3C standards, performed Cross Browser Testing.

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Associate Software Engineer | Tech Mahindra | Hyderabad, TG, India | Sept 2011 – Oct 2013

**Project: Integrated Test Data Management**

Environment: Spring MVC, Spring JDBC, MySQL, HTML, jQuery, Maven, Tortoise SVN.

**Description:** It is a tool diagnostic framework to support test data generation for the projects taken up by organization. ITDM uses ticket-based approach for tracking test data from the requirement to the reporting phase, which in turn reduces the coordination efforts required between Testing and DB Team. Self-Serve in ITDM enable the tester in fulfilling all his test data requirements. Self-Serve has a very user-friendly UI and gives the tester an opportunity to upload the test data in different environment (development, test, staging) required for testing.

**Responsibilities:**

- Worked on Agile based module design for the enterprise application, participated in requirements gathering and initial client discussions.
- Developed user interface screens using JSP, HTML, XML, CSS3, AJAX, jQuery and added JavaScript validations for creating ticket and checking status of ticket modules.
- Followed Spring MVC Framework and added Spring MVC, Spring JDBC dependencies in pom.xml.
- Worked on Database design and implementation in MYSQL and in validating data in tables using MySQL Workbench, while performing Unit Testing.
- Developed functionalities using Hibernate Framework for interacting with database.

**Case Studies:**

- Developed a web application used by agents for booking tickets, checking the status of bus schedule and canceling the booked tickets. Used HTML, JSP, Servlets, JDBC, implemented MVC-1 and DAO Pattern as a team of two.
- Developed a web application used by public agency for booking train tickets and checking reservation status and preparing charts for a train. Following Struts framework and DAO Pattern, using JSP and JDBC concepts.

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**Education**

**Master of Science in Computer Science**, GPA 3.29

University of Massachusetts, Lowell (April 2015)

Courses: Operating Systems, Data Communications, Internet and Web Systems, Algorithms, Machine Learning & AI.

**Bachelor in Technology in Computer Science**, GPA 3.5

Jawaharlal Nehru Technological University, Hyderabad, India (April 2011)

Courses: C, Data Structures, Design and Principles of Programming Languages, Compiler Design, Java & Networking.

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**Academic Projects**

- Developed an implementation of how query processing is performed on uncertain data using histograms and wavelets for IEEE 2010 paper "Histograms and Wavelets on Probabilistic Data", in Java-J2EE on Oracle database in Eclipse IDE, as a team of four in three months.
- Developed a mini implementation for a student forum, using ASP.net framework where students posted questions, which were answered by either professors or fellow students categorized by the course in six weeks.
- Developed an Android application using [PhoneGap](#), which uses camera and GPS of the mobile and displays the events nearby, users logged in can also update events and photos. Also developed an Android based platform for posting classifieds about books, for students in university with price suggestions and other students can access this list send requests to buy books. Users can also scan ISBN code to post a selling request.
- Worked on developing an AI & Machine learning implementation for the popular 20 questions game.
- Worked as intern for **GrateCare** a MIT based startup, performed data analysis of various dental insurances, also supported in Database Schema design and Models in Django.

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**Certifications**

- Mahindra Satyam Certified Hibernate- ORM Level 1 Developer.
- Presented paper on Semantic Deep Web at IIIT Hyderabad, India, A Member of ACM, MSDN Dream Spark.
- Completed certification courses on Web Designing through Inspire GEC, Introduction to **Orient DB** course via UDEMY, **Introduction to Splunk** course via [Learning@Splunk.com](#).
- Completed a weeklong Red Teaming and Ethical Hacking workshop organized by [PROSECS](#) for cyber innovations team at Philips to work on penetration testing activities.