

# ATANU DEY

17/A Durga Bari Road, Dum Dum Cantonment, Kolkata – 700028

M: 9007559769 | [mr.atanu.dey@gmail.com](mailto:mr.atanu.dey@gmail.com) | [GitHub](#) | [Linkedin](#)

## About Me

I'm an enthusiastic software engineer with **9 years** of expertise in the field of information technology. I love solving hard problems, learning new domains, and creating big systems that are manageable and amenable to change. I'm looking for a position where I can get challenges, opportunity to research and deliver innovative results.

## Career Summary

- Worked with PHP, MySQL, jQuery, Python, Django, PostgreSQL, Java, JSP and Hibernate to develop Web Applications. Used different frameworks and open source packages.
- Sound knowledge of Object-Oriented Programming. Implemented OOP techniques in all PHP, C#, Python and Java based projects.
- Worked on building Data Mining Software using Natural Language Processing (NLP) and Self-Organizing Maps (SOM).
- Develop Desktop Applications using C#, VB.Net, WPF, Oracle, MySQL, SQLite. Developed a Security or Antivirus application that deals with VPN connection, modifying routing table information and provides virus protection. Integrated Kaspersky SDK for paid version. Integrated CLAM antivirus SDK for free version.
- Built Cross Platform Mobile Application using Python/Kivy for automated testing of DPR Protocol built by [Q Factor Communications Corp.](#) This was completely R&D based task.
- Developed an automated smoke test infrastructure to test DPR protocol performance using Python.
- Linux server administration, network topology, NETCODE (A DPR Protocol) packet parsing using LUA.
- Hands on experience in developing Mobile applications using Android, Java. Built few mobile applications.
- Software requirement analysis and Database Designing and Administration. Architectural Database design for Large WEB applications on LAMP stack.

## Technical Skill Set

<b>Programming Languages</b>	C, C++, JAVA, VB.Net, C#.Net, PHP (OOP), Python, SQL, PL/SQL, Shell Scripting, LUA
<b>Operating Systems</b>	Linux (Cent OS, Fedora, RedHat, Ubuntu), Android, MAC OSX, Windows (All Versions)
<b>Internet Technology</b>	HTML, XML, AJAX, CSS, Smarty(Template Engine), Web Services (SOAP, XML-RPC)
<b>Database Tools</b>	MySQL, Oracle 8i/9i, SQLite, PostgreSQL
<b>JavaScript Frameworks</b>	jQuery, Prototype & Scriptaculous, Node JS
<b>Frameworks</b>	Zend Framework, Cake PHP, CodeIgniter, Drupal 7, Django Python

## Education

**Master of Science, Computer Technology** from University of Burdwan with 77.28%

## Professional History

### SenseNet Technologies Private Limited

*Aug 2011 - Present*

#### *Sr. Software Engineer*

*Product Design | Solution Architect | R&D | Team Handling | Technology Recommendation*

### Indusnet Technologies

*Sep 2010 – Jul 2011*

#### *Sr. Web Developer*

*Web Development | DB Administration | Team Handling | Client Handling*

### Limtex Infotech

*Oct 2009 – Aug 2010*

#### *Web Developer ( Consultant Level 3 )*

*Database Designing | Web Development*

### Karmick Solutions Private Limited

*Nov 2007 – Sep 2009*

#### *Sr. Programmer*

*Database Designing | Web Development*

## 1. Security Information and Event Management (UTM)

Aug 2011 – Jul 2014

*Funded and guided by IIT Kharagpur*

**Technologies:** PHP (OOP), MySQL, Java, C#.NET, WPF, SQLite DB, Python, Bash Scripting

**Frameworks:** Zend Framework, OSSIM (The Open Source SIEM), jQuery, .NET Framework 4.0

**Libraries:** Win32 API, OpenVPN, Kaspersky Antivirus SDK

**Tools:** CLAM Open Source Antivirus Engine, Birt Reporting Engine, Visual Studio 2012, RRD Tool

### Internet Security Management (ISM)

- Developing management GUI for security device using Zend Framework.
- Huge database designing and handling to process enormous number logs received from the ISD using MySQL Database.
- Used JAVA based Birt Reporting Engine (Eclipse) to generate reports with charts. We used PHP/JAVA Bridge for this.
- Socket communication with ISD to send port based or application based firewall or security rules.
- Extensive use of jQuery to ease user experience.
- Using ZendX\_Console\_Process\_Unix executed multiple tasks in parallel on console environments.
- Little bit of flash scripting to implement data traffic monitor graph for different protocols.
- Developed a blacklisted IP address detection tool to detect malicious network activity. Used a list of DNSBL database to query via Inverse Addressing check to accomplish the task.

**Reference:** <http://www.sensenet.in/internet-security-management/>

### Internet Security Device (ISD)

- Network topology setup for test bed. Device configuration.
- Bash Scripting for automated test for optimization.
- Object oriented Python is leveraged for parsing security events that are gathered from various agents over TCP/IP stack on to a text files.
- PyRRDTool is also used for RoundRobin Databases for displaying time based statistics.

**Reference:** <http://www.sensenet.in/internet-security-device/>

### SenseNet Security Solution

- Developed a Desktop Application which will connect ISD securely over VPN. Change routing table information so that all network traffic goes to ISD only and LAN users don't communicate with each other.
- Integrated Kaspersky Antivirus SDK (C# based library) to test file system for viruses (host based security). For this directly communicated with Kaspersky's team of developers. For free version of the software integrated CLAM Open Source Antivirus Engine.
- Single handed development of security software using C#, WPF and SQLite using .NET Framework, Used Installshield 2010 to build software installer.
- Update antivirus engine, scan for virus infected or malware files, save scan report to **SQLite DB** integrated within the app.
- This runs on all versions of windows 32bit or 64bit. This is similar to a standard internet security cum antivirus software.

## 2. Radius Server Configuration GUI

Aug 2016 Present

Bradford Networks LLC.

**Languages:** Java, JSP

**Frameworks:** Customized JSP

**Tools & Libraries:** Hibernate, CORBA, YUI Library

**Database:** MySQL

Building a management GUI to manage and configure a Radius Server. They have a GUI built for their network sentry with Core JAVA, Custom JSP, CORBA, Hibernate and YUI JavaScript Library. We are using the same architecture to build the GUI. We are working in a VirtualBox CnetOS 7 setup.

### 3. Automated test infrastructure and Mobile App for DPR Technology

Jan 2014 – Jan 2015

**Protocols:** OSI Network Stack, NETCODE ( Custom Data Packet Recovery Protocol ), HTTP.

**Languages:** Python (OOP), Java, Objective C.

**Frameworks:** Kivy, Android, COCOA.

**Tools & Libraries:** Netem, Shell Scripting, GNUPlot

#### Part 1 - Cross platform mobile application

A cross platform mobile application developed using Python and Kivy framework. The mobile app is to constantly looking a command file from the server; parse it to do some configuration in the client side and initiate upload and download as many as mentioned in the command file. All uploads and downloads runs on different threads using urllib2 library. The app is completely written using Python and OOP approach. The mobile app uploads and downloads data via DPR server or directly to or from internet to test the capability of the DPR server. The DPR server is a special data packet recovery server that runs over TCP/IP stack with a special custom protocol to handle data going through it in a special way that download and upload speed increases while there is some congestion in the network. The client app has the responsibility to record the speed for each simultaneous upload and download speed individually while going via DRP server and while not going via DPR. The DPR sdk is also integrated to mobile application for different platforms which will send all packets over UDP to the DPR server while data transfer takes place via DPR server. It uses UDP to speed up the data transfer operations.

#### Part 2 - Smoke Test Infrastructure

The test infrastructure is completely written in Object Oriented Python. It uses NETEM to add loss to the network. The test infrastructure helps run multiple test profiles automatically. The test automatically generates command files into the web servers and change configurations so that test clients that are ready to download command files begins to download the command files and initiate uploads and downloads. The test infrastructure generates the command based on some predefined test profiles where it is mentioned, how many uploads or downloads to be done, what will be that size of the file, how much packet loss will be added, set device identifiers etc. The test suit uses python to collect speed test results from multiple client devices (few android and few ios) and plot it in a graph using gnuplot python library. Finally multiple graphs gets generated for many mobile clients and the graph gives a clear picture of how for different sized files, for different packet loss scenarios, different devices performed. So to test upload speed or download speed of multiple mobile devices via DPR or not using different configurations and to get the test report in graphs it requires only one command to be executed. The test will happen completely automatically.

### 4. Contextual Search Engine (POC)

**Technologies:** NLP, Web-SOM, MATLAB, Tika (Apache), Nutch (Apache), PHP, MySQL, Data-Driven Documents (D3)

Implemented a method for document organization and retrieval based on statistical language modeling, an information retrieval system is built using Natural Language Processing (NLP) and Self-Organizing Maps algorithm.

- This organizes heterogeneous typed of documents, viz. TEXT, DOC, PDF, PPT, PST (Email files) etc. and represents them in a hexadecimal map (a matrix of hexagons) where each hexagon represents a cluster of related documents. After processing of data and generating the map it can be easily understood which of the documents are related to each other with the contextual meaning of their content.
- This is a sort of search engine by which we can search on a huge set of data not only by keyword match but match based on contextual meaning of the search input.
- Worked with our team and a team researchers and professors from Jadavpur University to accomplish the task. Studied research papers to understand and implement the concept.
- We have used different new journals and news article as huge corpus (a collection of huge set of data).
- Used [Data-Driven Documents \(D3\)](#) and jQuery to build a web representation of Self-Organizing Maps. The SOM was represented in an interactive hexagonal map similar to somtoolbox representation of SOM in MATLAB.

### 5. Faraday Finder

Mar 2016 – Aug 2016

- A social networking kind of web application project for users of a Research Lab using Python3 (OOP) / Django / PostgreSQL
- Implemented a realtime chat application using Socket.io and Node JS
- Integrated Braintree payment gateway solution for e-Commerce part along with content management. We leveraged multiple cart for different kinds of classes of items depending upon the marketplace environment requirement of the client.

Reference: <http://faradayfinder.herokuapp.com/>

## 6. Custom PHP/MySQL Projects

Nov 2007 – Jul 2011

### LBSNAA

- It's a website for Lal Bahadur Shastri National Academy of Administration (Govt Of India). The site is a Dynamic content based Web Application.
- Dynamic Organization Chart using Google JS API and jQuery customization.
- LDAP based login, Dynamic Menu System
- Site is fully customizable from admin backend.
- Most challenging part of the project was requirement analysis. It took frequent sessions with IAS officers.

Reference: <http://www.lbsnaa.gov.in/>

**Technologies:** PHP (OOP), MySQL, jQuery, Cake PHP 2

### Low Price Holiday

- It's a site for searching and booking of Hotel, Apartments, Flights, Car Hire, Parking Places worldwide through 7 independent XML/WSDL based API providers. API integration and merging all APIs together.
- XML based request and response for search, listing and booking.
- CURL/Socket based request response.
- Complex array/object handling.
- PHP5 (OOP) based coding framework.

Reference: <http://www.lowprice-holiday.com/>

**Technologies:** PHP (OOP), MySQL, jQuery, MVC Architecture, XML APIs

### eWorkr

- This is a web application for online projects. This is similar to freelancer.com or elance.com.
- A big project with cutting edge standards and features.

**Technologies:** PHP (OOP), MySQL, jQuery, MVC Architecture, Smarty

### Obezyanka

- It's a social networking site. Worked as a sole Sr. Developer. It has similar features like a standard social networking site like orkut or facebook.
- This project has been developed with 2 tier architecture (Smarty), with flexible and cleanly written modules in PHP5 (OOP).
- Database handling with PDO.
- AJAX based internal mailing system. Rich AJAX based UI effects with custom JQuery.
- A quality image gallery with AJAX based multiple image uploading using FLASH button and custom JQuery.
- A video module with support for almost all types of video uploading, sharing and playing with XML and FLASH based player.

**Technologies:** PHP (OOP), MySQL, jQuery, MVC Architecture, FFmpeg

### MyGreek

- It's a social networking site for US students that has many similar functionalities of [www.facebook.com](http://www.facebook.com) Customized AJAX chat implementation, similar to Gmail-Chat using prototype & scriptaculous (a JavaScript Framework). (R&D, wrote the whole chat application )
- Creation of group emails and email forwarding using an application in UNIX environment. (R&D Based)
- SOAP based SMS gateway implementation.
- AJAX based (WEB 2.0) user interface using different JAVASCRIPT frameworks like Mootools, Prototype & Scriptaculous, and jQuery. (R&D Based)
- Flash-XML applications.

**Technologies:** PHP, MySQL, jQuery, Prototype & Scriptaculous, MVC Architecture.

## 7. .NET Projects ( Desktop Applications )

### Online PC Doctors

*Dec 2009 – Feb 2010*

- This is a desktop based web application module. I mixed php/mysql and vb.net and made a REST based desktop application.
- Wrote a chat application using VB.NET and MySQL.
- Complex process handling through server side pages written in PHP.
- Complex data and control synchronisation with the server through the app.
- MySQL.Net database driver is used for database connectivity.

**Technologies:** PHP, MySQL, VB.NET

### Turn It Up Media Player

*Jan 2008 – Mar 2008*

- It's a music player which can play a custom .tiu extension, .mp3, .wav, .wma music files with almost all features available for a Standard Media Player. This player has been included to a music site.
- Playlist editor, Playlist Navigator, Playlist creator.
- Save media history as mostly played, most recently played, with play count using XML.
- Mozilla Browser (OCX Component) embedded.
- .flv movie player as per user requirement for playing advertisements.

**Technologies:** PHP, MySQL, VB.NET

*\*\*\* The projects where I was involved aggressively for longer period of time are given above. These are the most challenging projects where I have worked as the technical lead/senior developer.*

## Interests

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- Participating in programming contests.
- Developing new things in the area of programming (R&D)
- I like Music of many kinds. I'm an amateur guitarist.
- Reading different kinds of books.