

# Sandeep Raju Prabhakar

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Seeking full-time opportunities starting Jan, 2017. Open to relocation across United States.

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## Education

**Northwestern University** - Evanston, IL

Expected Dec 2016

Master of Science in Computer Science - GPA: 3.93 / 4.00

**PES University** - Bangalore, India

Jun 2013

Bachelor of Engineering in Computer Science - GPA: 8.50 / 10.00

## Technical Skills

### Programming:

- ❑ **Proficient:** Python, SQL, HTML, CSS
- ❑ **Familiar:** JavaScript, C, Java, Go, C++, BASH, PHP

**Design / User Experience:** Adobe Photoshop, Balsamiq

### Other Technologies:

- ❑ **Proficient:** Django, Flask, Ionic, PostgreSQL, Redis, Git, Emacs, Linux CLI
- ❑ **Familiar:** NodeJS, ReactJS, Spring boot, MongoDB, MySQL, AWS, Heroku, Bootstrap, AngularJS, WordPress

## Work Experience

**Expedia, Inc.** - Chicago, IL

Jun 2016 - current

*Software Development Engineering Intern (Expedia Worldwide Engineering team)*

- ❑ Developed hotel booking reconciliation tool in Java Spring Boot on AWS that monitors ghost bookings in the inventory.
- ❑ Developing front-end for the property portal using ReactJS that is set to bring down the page load time significantly.

**Foodrop, Inc.** - The Garage, Northwestern University, Evanston, IL

Jan 2016 - current

*Co-founder and Lead Software Engineer*

- ❑ Co-founded Foodrop, an aggregated food ordering platform run by students as a part of NUvention entrepreneurship course.
- ❑ Designed and built the backend infrastructure along with the [iOS](#) and [Android](#) mobile application that powers the platform.
- ❑ Processed 300+ orders in a two-week trial run in spring 2016 at Kellogg School of Management, Northwestern University.

**Introduction to Programming (Python)** - Northwestern University, EECS Department, Evanston, IL

Jan 2016 - Mar 2016

*Teaching Assistant*

- ❑ Conducted recitation sessions for a class of 52 to review the course content & discuss the assignments.
- ❑ Held office hours to help students, provided feedback on course content to instructor and prepared content for assignments.

**Plivo, Inc. (YC S12)** - Bangalore, India

Jun 2013 - Aug 2015

*Product Engineer*

- ❑ Was part of a three member Product Engineering team responsible for architecting, building and scaling the platform.
- ❑ Authored an open source rate limit queuing system called SHARQ (<http://sharq.io/>) for the SMS infrastructure at Plivo.
- ❑ Developed a distributed Call & SMS dispatch system; led the process of porting the SMS routing and billing system to Golang.

**Shippr.in** - Bangalore, India

Jan 2015 - Aug 2015

*Software Development Consultant*

- ❑ Developed the real-time vehicle tracking system in NodeJS, SocketIO and Redis used by Shippr driver's android application.
- ❑ Designed the backend architecture and the REST APIs using Django REST framework currently used by clients like [Snapdeal](#).

**Practo Technologies** - Bangalore, India

Jan 2013 - May 2013

*Software Engineering Intern*

- ❑ Developed the PUSH notification backend for Practo Hello mobile application used by thousands of doctors across India.
- ❑ Integrated a cloud telephony provider ([KooKoo](#)) to Practo Hello web application to help doctors manage virtual phones.

**Alphamatters Advisors** - Bangalore, India

Nov 2012 - Dec 2012

*Software Engineering Intern*

- ❑ Developed SOAP & REST APIs in PHP and a micro server in Python talking to MATLAB for their core stock prediction system.
- ❑ Plotting the regression analysis of stock market data in realtime using SocketIO and nvd3.js.

## Project Experience

### **Sulley: An open source framework for building SMS bots** - Evanston, IL

Apr 2016 - Jun 2016

Author

- ❑ Developed a framework to help developers build SMS bots using Twilio or Plivo with a very few lines of Python code.
- ❑ Lets the user perform generic tasks over SMS by defining commands bound to functions using Python decorators.
- ❑ Future plan is to create access control and admin commands to manage the bot remotely using SMS.

### **Keep It Fresh: Predicting Restaurant Inspections** - EECS Department, Northwestern University, Evanston, IL

Apr 2016 - Jun 2016

Software Developer

- ❑ Worked towards predicting restaurant health violations using data from Yelp and City of Boston health violation history.
- ❑ Evaluated and implemented machine learning techniques like Decision Trees and Neural Networks in Python.

### **Python Data Workflow Framework** - EECS Department, Northwestern University, Evanston, IL

Jan 2016 - Mar 2016

Researcher & Software Developer

- ❑ Worked towards evaluating machine learning libraries that support online learning to aid a mobile security project with Tencent Inc, to model mobile phone usage patterns to classify the mobile phone user as 'owner or not'.
- ❑ Developed a data workflow framework on top of Vowpal Wabbit to help run large scale experiments.
- ❑ The results of this research has been submitted to the 'Computer and Communications Security (CCS 2016)' ACM conference.

### **SHARQ: An open source rate limiting queuing system** - Plivo Inc., India, Bangalore

Jul 2014 - Aug 2014

Author

- ❑ Architected and implemented a rate limiting queue based on the novel approach conceived by [Alan Shreve](#).
- ❑ The project, written in Python using Gevent and Flask on Redis is open source and available at <http://sharq.io> and [Github](#).
- ❑ A few startups including Plivo are using SHARQ in their infrastructure as of today for throttling generic jobs.

### **Web based Telephony System on a Private Cloud** - PES University, India, Bangalore

Jan 2013 - May 2013

Software Developer

- ❑ Created a tool using Python and Asterisk to abstract the process of managing a telephony infrastructure on private cloud.
- ❑ Developed an IVR builder interface and backend server to offload call-flow logic to a system connected over the network.
- ❑ Prototyped a new JSON based format to represent a call flow or an IVR similar to today's Twilio's TwiML or Plivo XML.

### **A Weight-based Personalized Recommendation System for Movies** - PES University, India, Bangalore

Aug 2012 - Dec 2012

Researcher & Software Developer

- ❑ Created a weight based recommendation system using graph as the primary data-structure using Python networkX package.
- ❑ A prototypical movie explorer software was built in Qt C++ to survey the effectiveness of the algorithm with real users.
- ❑ Findings of the research received critical reviews and invaluable feedback from WWW2014 reviewers.

## Conference and Workshop Presentations

### **PyCon India 2014** - Bangalore, India

Sept 2014

Technical Speaker

- ❑ Selected from a pool of more than hundred talk proposal to present my project at PyCon India 2014.
- ❑ Presented a talk titled "SHARQ - An API queueing system built at Plivo!" based on the project I authored.

### **PES Open Source: Tech Thursdays** - PES University, Bangalore, India

Feb 2013

Workshop Presenter

- ❑ Conducted a technical hands-on workshop on "Git - the distributed version control system".
- ❑ Handled topics from basics like add, commit to advanced topics like Git workflow, interactive rebase, Git bisect, Git revert.

### **Student Nokia Developer Workshop** - IIIT-B, Bangalore, India

July 2012

Workshop Presenter

- ❑ Conducted a day-long workshop on building user interface components using Adobe Photoshop and Corel Draw.
- ❑ The hands-on workshop was attended by more than hundred students and professionals from all over India.

## Awards and Scholarships

### **Distinction Awards** - PES University, Bangalore, India

Aug 2009 - Jun 2013

- ❑ For academic excellence in multiple semesters during undergraduate studies.

### **MHRD Scholarship** - Government of India, India

Aug 2009

- ❑ For academic excellence by securing high score in the Pre-University examination.