

# Sandeep Raju Prabhakar

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

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

### Other Technologies:

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

## Work Experience

**Expedia, Inc.** - Chicago, IL Jun 2016 - current  
*Software Development Engineering Intern (Expedia Worldwide Engineering team)*

- ❑ Developing a tool to automatically reconcile hotel room bookings from multiple third party hotel inventory providers.
- ❑ Working on simplifying the process of developing and deploying Java Spring Boot application on AWS Lambda.

**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 [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/>).
- ❑ 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 framework in NodeJS, SocketIO and Redis.
- ❑ Designed the backend architecture and the REST APIs using Django REST Framework.

**Practo Technologies** - Bangalore, India Jan 2013 - May 2013  
*Software Engineering Intern*

- ❑ Developed the server side PUSH notification backend for Practo Hello mobile application.
- ❑ Integrated a cloud telephony service provider to Practo Hello web application.

**Alphamatters Advisors** - Bangalore, India Nov 2012 - Dec 2012  
*Software Engineering Intern*

- ❑ Developed SOAP & REST APIs for their core stock prediction system.
- ❑ Plotting and regression analysis of stock market data in realtime.

## 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 with very few files of Python code.
  - ❑ Currently supports two major SMS providers (Twilio & Plivo) that can be seamlessly switched.
  - ❑ Future plan is to add plugin support to the framework to make integrations easy.
- 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 open data from Yelp and City of Boston.
  - ❑ Evaluated and implemented machine learning techniques like SVM, Bayes Nets, Decision Trees and Neural Networks.
- 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 by Alan Shreve.
  - ❑ The project was eventually open sourced and currently available at <http://sharq.io> and [Github](#).
  - ❑ A few startups are using SHARQ in their infrastructure as of today.
- Web based Telephony System on a Private Cloud** - PES University, India, Bangalore Jan 2013 - May 2013  
*Software Developer*
- ❑ Created a platform to abstract the process of managing a telephony infrastructure on private cloud.
  - ❑ Designed a technique 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.
- 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.
  - ❑ A prototypical movie explorer software was built to survey the effectiveness of the algorithm.
  - ❑ 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 reverts.
- 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.
  - ❑ The workshop was attended by more than hundred students from universities 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.