

# Suraj Chafle

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## EDUCATION

**ILLINOIS INSTITUTE OF TECHNOLOGY** Chicago, IL  
MASTER OF SCIENCE IN COMPUTER SCIENCE GPA: 3.57/4.00

Dec 2016

**COLLEGE OF ENGINEERING PUNE** Pune, India  
BACHELOR OF TECHNOLOGY IN ELECTRONICS AND TELECOMMUNICATION GPA: 7.70/10.00

May 2012

## SKILLS

Languages: C++, Python, C, Java, SQL,  $\text{\LaTeX}$ , MATLAB  
Database: MySQL, PostgreSQL, MongoDB, DynamoDB  
Web Development: HTML, CSS, Django, Javascript, JQuery  
Cloud Computing: Amazon Webservices(AWS), Heroku

Tools: Git, Gdb, Jenkins, JIRA, Visual Studio  
Big Data: Spark, Hadoop MapReduce, Lucene, Solr  
Automation: Jenkins, Perl, Shell, CMake  
Mobile Development: Android, Firebase, Parse

## EXPERIENCE

**ILLINOIS INSTITUTE OF TECHNOLOGY | C PROGRAMMER - SMART GRID RESEARCH** May 2016 – Oct 2016

- Developed Python scripts to generate skeleton C code for simulating power system models for exciters, generators etc.
- Optimized generated C code for faster than real time simulation

**IMAGINATION TECHNOLOGIES | SOFTWARE DESIGN ENGINEER** | Pune, India Feb 2015 – Dec 2015

- Built a test automation framework with Django and MySQL for frontend, python for test execution, SOAP protocol to distribute test requests and REST APIs; which resulted in reduced manual testing efforts.
- Created a white box testing framework in C++ for Video API testing which helped in earlier bug detection

**ROBERT BOSCH | SOFTWARE ENGINEER** | Bangalore, India Jun 2012 – Jun 2014

- Developed tools for automation of SDK builds, packaging and making them shipping-ready using CMake, Perl and Shell
- Automated testing of Bosch's new OpenGL based Navigation system with Perl and Shell thereby easing continuous integration

## RESEARCH

**MULTIPROGRAMMING WITH NAUTILUS** | Chicago, IL Aug 2016 – Dec 2016

Worked with Prof. Kyle Hale to explore possibility of achieving multiprogramming without having to implement heavyweight process subsystem for Nautilus Aero-kernel by using Intel's virtualization features.

**DOCUMENT SEARCH IN DISTRIBUTED SYSTEMS** | Chicago, IL May 2016 – Aug 2016

Worked with Prof. Ioan Raicu to develop a framework with distributed query distribution for overcoming limited parallel connection in document search with centralized server. Published this research at Supercomputing Conference, 2016 [1]

## PROJECTS

**BENCHMARKING AWS INSTANCE** Developed a tool in C to benchmark CPU, memory and disk performance of an AWS instance. Compared results against standard benchmarking tool viz. linpack, iotop and stream

**DISTRIBUTED JOB SCHEDULING** Developed a job scheduler in Python using AWS-SQS and DynamoDB mimicking Animoto video creator. Used AWS-S3 to store generated videos.

**TRAVELOGUE- DJANGO APP** Developed a web app to maintain past travel records using Python and MySQL. Used D3, JQuery and Ajax for displaying travel statistics. Integrated Facebook OAuth login and hosted on pythonanywhere.com.

**EXTRACTION OF ROAD AND LANE BOUNDARY FROM SAT-IMAGERY** Developed a tool using OpenCV in python which returns poly-lines for road and lane boundaries by processing satellite images fetched using vehicle's location.

## HACKATHONS

**SMART CITY HACKATHON** | Chicago Jun 2016  
Built an android app "Towed??" for locating towed/relocated vehicles using Chicago city database APIs. **2nd Runner up.**

**NGA EXPEDITION HACK** | Chicago Sep 2016  
Built an android app "CareBnB" for disaster relief management with Parse, Google map and Facebook login. **1st Runner up.**

## PUBLICATIONS

[1] S. Chafle, J. Wu, I. Raicu, and K. Chard, "Optimizing Search in UnSharded LargeScale Distributed Systems," Nov. 2016.