Chaitanya Bapat

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EDUCATION

Sardar Patel Institute of Technology, University of Mumbai, India **Expected May 2017**

Candidate for Bachelor of Engineering in Computers with *Distinction* (C.G.P.A. 8.28/10) in the first six semesters.
Relevant Courses: Soft Computing, Artificial Intelligence, Data Structures, Database Management System, Distributed Databases, Applied Mathematics 1-4, Analysis of Algorithms.

PROFESSIONAL EXPERIENCE

Nexchanges Marketplace Private Limited, Mumbai **May 2016 - Present**

Data Scientist (Intern and Co-op)- Technical Department
Nexchanges is a financial technology firm that offers a real-estate exchange powered by true real-estate price discovery.

Data Extraction

- Spearheaded the Data Extraction team implementing 10 Web Scrapers hosted on Scrapy Cloud that extracted more than 1 million data records from 7 online real-estate platforms across a period of 2 months
- Extracted and cleansed the real-estate data for region of Mumbai using Python Libraries – Scrapy, Beautiful Soup

Data Warehousing

- Led the deployment of Pachyderm as a Big data processing framework in a span of 20 days
- Formulated Pachyderm pipelines for performing analytics on the extracted data using Text Clustering
- Optimized the existing data on the basis of Location, Real-estate Configuration type, Date and Building Name using Geo-temporal clustering - Machine Learning algorithm based on K-means Clustering.

Data Visualization

- Designed single-handedly, interactive dashboards using Web Technologies such as HTML, CSS, Javascript and Visualization framework like D3.js along with RESTful Web Services integration
- Designed the Dashboards that provided insights on Key Performance Indicator of the business and helped improve the market and sales by 20% growth Month over Month

MatriCS Infoweb Solutions India LLP, Mumbai **April 2016 – May 2016**

Research Intern

Data Discovery and Mapping

- Explored more than 30 online fitness platforms to retrieve 350+ unique marathons in India for the year 2016
- Conceptualized the database schema for data mapping and data modeling using MySQL Workbench
- Consolidated the marathon data using Linear and Multiple regression analysis

Quickwork Technologies Private Limited, Mumbai **May 2015 – December 2015**

Software Developer Intern- Engineering Department
Quickwork Technologies, previously Aaspass Jobs, is a technology startup that aims to solve India's employ-ability problem especially for manual laborers jobs by powering technology for performance measurement and career mentoring

- Developed Mobile application using Java and TeamChat Client SDK based on messenger bots where all transactions and interactions are fortified by Natural Language Processing and Artificial Intelligence.
- Handled the backend of the entire application in MongoDB, a NoSQL document-oriented database.
- Integrated the mobile application with the iOS SDK using Client SDK
- Envisioned the QuickScore concept, a dynamic performance calibration of interns/workers based on feedback, work ethic, previous history, current work.

Sardar Patel Institute of Technology, Mumbai **Jan 2016 – December 2016**

Undergraduate Teaching Assistant

- Teaching Assistant, under Principal Dr.Gharpure for two semesters for Structured Programming Approach (C language) and Object Oriented Programming Methodology (JAVA language)
- Taught key concepts like Structures and Functions in C and using JSwing, JavaFX in Java to over 120 students

ACADEMIC PROJECTS

Comparative study of Containerized Analytics (Pachyderm) vs Traditional Analytics (Apache Spark)

- Deployed Pachyderm cluster on Amazon Web Service Elastic Cloud Compute engine
- Formulated the Pachyderm pipelines for analytical computations in Python
- Documented the performance of Containerized analytics of Pachyderm using Docker containers
- Achieved 30% reduction in analysis time as compared to computations experimented in Apache Spark
- Technologies used : Apache Spark, Amazon Web Services, Python, Kubernetes, Docker, Pachyderm
- Submitted research paper to IEEE conference under evaluation currently

Raspberry Pi Based Smart Lock (In Progress)

- Designing the Smart Lock using the Raspberry Pi 3 Model B, a credit-card sized computer for a secure locking system.
- Re-engineering BLE protocol to mitigate the vulnerabilities like Man-in-the-Middle attack.
- Integrating Cryptography and Steganography for a higher level of security in Smart Locks.
- Technologies used: Raspberry Pi (Raspbian) , Python, Android

Skin Image Recognition using RGB, HSV, YCbCr models

- Designed an algorithm to identify skin pixel from non-skin pixel using the RGB, HSV, YcbCr models with 93% accuracy
- Applied Machine Learning concept of regression for skin image data set training
- Technologies used : Java, Python, R, Matlab
- Paper accepted by International Conference on Communication and Signal Processing (ICCASP) to be presented during December 26th - 28th , 2016 as book chapter in Springer-Atlantis "AISR(ISSN 1951-6851)" book series.

Artificial Neural Network based Skin Disease Analysis

- Analyzed skin images using Machine Learning algorithms for potential diseases based on symptoms
- Implemented Principal Component Analysis (PCA) for feature extraction of skin images
- Executed Kmeans for Image clustering and Random Forest Classifier for codebook generation
- Programmed Back propagation algorithm for training the multi-layered neural network
- Technologies used : Android application, Python, Django server

Envitter : Social network for Environment

- Created a Twitter inspired social platform to place issues faced in daily life (deforestation, damaged roads, pollution)
- Designed the Admin panel for Government officials to assign issues and broadcast on social platforms upon successful completion and an Android application for users to report grievances
- Technologies used : Android, AngularJS, HTML5, CSS3, Bootstrap, PHP7, MySQL

VSecure : Safety solution for civilians

- Conceptualized a framework for alerting the civilians about the Security Index of a region using GPS co-ordinates
- Developed a Windows Web Application to provide administration panel for Police department to feed information about various security events, attacks occurring in a region
- Technologies used : Android, Windows Web Application, Azure SQL (Cloud Database)
- Won Third prize at Microsoft Hackathon

SOFTWARE SKILLS

- Programming Languages: C, C++, Java, SQL, Python
- Big Data frameworks : Hadoop, Apache Spark, Pachyderm, IBM Netezza
- Design and Simulation Software: MATLAB, Scilab
- Data Visualization Software: D3.js, R, Tableau
- Databases : MySQL, Oracle SQL, MongoDB
- Web Technologies: Javascript, PHP7, HTML5, CSS3

LEADERSHIP

- Secretary-General, Sardar Patel Model United Nations (S.P.M.U.N.), 2015.
- Secretary, Computer Society of India S.P.I.T. chapter, 2015.
- Managing Editor, Alumni vertical at SPark, official online news portal of S.P.I.T., 2015.
- Vice President, Rotaract Club of Mumbai Parleshwar, 2014.

EXTRA-CURRICULAR ACTIVITIES

- Clocked 1hr 4 min 57 seconds for 10km Timed Run event at IDBI Mumbai Half Marathon, 2016
- Team Member, AIESEC organization in the Outgoing Global Internship Programme vertical, 2015
- Organized Computer Society of India Informational Technology - 2020, an Annual conference of C.S.I. India, 2015
- Special Mention award at Mumbai Model United Nations conference, 2014
- Completed Level 2 Spanish Language Examination under Spain's Foreign Education Ministry – 90%, 2013

SOCIAL SERVICE

- Educational Support Volunteer, Make a Difference
  Taught Mathematics to 6th-grade students across 8 months at St.Catherine's High School Mumbai.
  Completed 45+ hours of teaching and enabled 20% increase in their academic score.
- Teaching Volunteer, Abhyudaya , S.P.J.I.M.R. initiative for providing free education to under-privileged kids.
  Taught English, Mathematics to students ranging from 6th grade to 10th grade during 2015-16