Sr. Data Scientist
Fractal Analytics,
Bangalore,India

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Employment

Sr. Data Scientist
Fractal Analytics,
Bangalore,
India.
August'16 onwards
(1 Year 8 months)

- Working (as a vendor) with marketing analytics team of a leading online advertisements MNC. I am involved in projects that handle several hundred thousands to millions of unique avertisers across globe to solve problems such as 'Who are prospects for up-sell / cross-sell?', 'Revenue impact estimation of campaigns, product features, etc.'
- Worked (in earlier projects) on problems of type anomaly detection, employee behaviour segmentation and predictive modelling.
- Worked in domains of CPG, Security, Online Advertisements.
- Initiated capability as part of AI and ML team on 'Emotion Recognition from Audio'
- Core technologies - bash shell scripting, SQL, Python and R. Also completed several internal assessments related to these.

Research Engineer
Xerox Research Center India
Bangalore,
India.
July'14 - August'16
(2 Years)

- Optimized Keyword Spotting System - Used shared memory multi threading SIMD instructions, Intel IPP vector operation optimizations to make the system sub-real time. (C/C++)
- Built a cloud based real time conversational (Apple Siri like) agent - Involved acoustic and language model generation using of Kaldi speech recognition tool-kit, secure TCP/IP websocket communication between speech recogniser server, text-to-speech server (Python, shell scripting, core Java).
- Built a pronunciation predicting decision tree based dictionary - Given a spelling, returns a pronunciation in the form of phonemes. Involved writing python scripts to run various stages of input processing and decision tree learning.(Python, shell scripting)
- (Briefly) worked with Theano deep learning tool-kit to experiment hashing techniques in building a phoneme recogniser - Involved handling a very deep & large network, high dimensional & large data-set, highly sparse space with minimal memory storage requirement O(32GB). (Python, Git versioning tool)

Teaching Assistant
Deptt. of Computer Science
IIT Delhi, India.
July'12 - June'14
(Academic 2 Years)

- Conducted labs, prepared & evaluated assignments and exam question papers for 4 semesters at IIT Delhi.
- Won 'Outstanding Teaching Assistant Award'. Link
- Comment from the Course coordinator, Prof. Saroj Kaushik: Niranjan was very enthusiastic, concerned about improvement of the students' knowledge, and helped with designing assignments and MOSS.

Software Developer
Oracle, Bangalore,
India.
June'11 - June'12
(1 Year)

- Worked as Member Technical Staff on the product - Oracle Social Network.
- Involved in server side API and performance testing.
- Worked in Java and JUnit for test automation.

Publications

- Co-inventor on Xerox patent (submitted in Aug'16) - Discriminative DNN Hashing Technique for High Dimensional and Massive Scale Machine Learning
- Niranjan Viladkar, Vivek Tyagi, Arunasish Sen, Sriranjani R, Pragathi Praveena, "Xerox Conversational AI Agent (XCAI) for Enterprise Knowledge-base Q&A", Show & Tell Industrial Research Track, IEEE ICASSP 2016 `http://www.icassp2016.org/ST-3.asp`. Demo video - `https://goo.gl/aEuqEU`
- Niranjan Viladkar, Vivek Tyagi, "Real time Large Vocabulary Speech Recognition and Keyword Spotting", Xerox Innovation Group Research Conference at Webster, Rochester, NY, September, 2015. Link to poster

Education

Master of Technology
Deptt. of Computer Science
IIT Delhi, India.
July'12 - June'14
GPA: 9.03 out of 10

Udacity Nano degree
Machine Learning (Basic)
March'18

Bachelor of Technology
Deptt. of Computer Science
NIT Nagpur, India.
July'07 - May'11
GPA: 7.88 out of 10

Higher Secondary (Grade 12)
Maharashtra State Board
R.Y.K College of Science
Nashik, India.
July'04 - March'06
Percentage : 78%

Projects

Masters' Thesis - May 2014
Title - Incorporating Object and People Information to Improve Video Activity Recognition
Guide - Dr. Parag Singla, IIT Delhi.
Details - The project combines the first order logic and probability to improve the accuracy of prediction of human activity recognition classically done using machine learning and/or object recognition techniques. Achieved absolute 5% improvement over baseline. (Java, Matlab, Shell scripting)

Bachelors' Thesis - May 2011
Title - Heap Reference Analysis and Its Implementation in GCC
Guide - Dr. Uday Khedker, IIT Bombay and Dr. C. S. Moghe, VNIT Nagpur.
Details - Worked in a team of 3 on heap reference analysis in GCC back-end towards improving conventional garbage collection. Wrote a GCC Inter-Procedural Analysis (IPA) pass, which works on liveness of memory location rather than just the reachability for garbage collection decision. (C, GNU Make)

Course Project - May 2013
Title - Parallelised SVD Computation over CPU and GPU
Guide - Dr. Subodh Kumar, IIT Delhi.
Details - Worked in a team of 2 to implement a parallel version of singular value decomposition of a matrix using CUDA over GPU and C/C++ over CPU. Achieved speed ups proportional to the size of input matrix. Parallel version runs 4.4x faster over serial version for input matrix of the size 4000x4000.

Awards

- Astronomy Olympiad, 2006 - Selected in National Astronomy Olympiad organised by HBCSE, TIFR. Was amongst top 45 students all over India.
- OPJEMS Scholar, 2007 - Awarded O P Jindal Engineering and Management Scholarship. Was amongst top 20 students all over India. Link : `http://www.opjems.com/opjems_scholars.html` >2007 >NIT Nagpur.

Passion

- I love working with systems and coding, be it linux, GCC compiler source code or project codebase. I enjoyed my stints from B.Tech till Xerox where my work required heavy and (almost) daily coding/building up systems. (Said this, I also have lot to pick up to be a professional)
- To my system skills, I am able to add analytics and machine learning skills via projects at Fractal.
- I strongly believe these two skills go hand in hand for building a system with high impact.