

NITISH KUMAR KULKARNI

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EDUCATION

- **Carnegie Mellon University, School of Computer Science** Pittsburgh, PA
Master of Computational Data Science (Analytics) Aug 2017 - Dec 2018
- **Indian Institute of Technology Madras** Chennai, India
B.Tech. & M.Tech., Electrical Engineering; Minor: Economics Aug 2009 - Jul 2014
CGPA: 9.13/10 (Minor: **9.4/10**), Rank: **2/24**
Awarded *Schneider Electric India Foundation Scholarship, Merit Cum Means Scholarship & C.B.S.E. Merit Scholarship*

PROFESSIONAL EXPERIENCE

- **Data Science Intern, DataSigns Technologies, Bengaluru** (Data Analytics and Credit Modeling) May - Jul 2017
 - Devised a credit underwriting model based on logistic classifiers to predict the likelihood of loan defaults
 - Engineered classification features from unstructured data including texts, financial transactions, location and social media
- **Associate, Goldman Sachs, Bengaluru** (Fixed Income Strats, Investment Management Division) Jan - May 2017
 - Built trading strategies using anomaly detection techniques, dimensionality reduction and linear regression models
 - Analyzed cross-correlations among financial time series using Bayesian parameter estimations for vector autoregressive models
 - Designed & built research tools for computing risk metrics, analyzing statistical properties and backtesting trading strategies
- **Quantitative Analyst, Goldman Sachs, Bengaluru** (Fixed Income Strats, Investment Management) Jun 2014 - Dec 2016
 - Modeled the impact of economic data releases and business cycles over financial assets using linear regression and SVMs
 - Developed infrastructure to aggregate terabytes of data and reflect real-time trades consistently across multiple geographies
 - Managed an intern, conducted on-site technical interviews and was involved in on-campus recruiting
- **Software Engineering Intern, Qualcomm Inc., Bengaluru** May - Jul 2013
 - Extracted the top critical paths for a digital circuit using graph traversal algorithms and Monte Carlo simulations
 - Processed large amounts of text data using perl to model digital circuits as Directed Acyclic Graphs
- **Electrical Engineering Intern, Texas Instruments, Bengaluru** May - Jul 2012
 - Interfaced CAD tools using shell and tcl scripts to streamline the estimation of *Fault In Time* for semiconductor devices
 - Developed a probabilistic technique for estimation of *Soft Error Rate* to achieve 94% accuracy against simulations
- **Product Development Intern, Harness Handitouch Pvt. Ltd., Chennai** May - Jul 2011
 - Designed and developed an FTIR-based multitouch surface; won the *Best Inten Award*
 - Built an alpha-prototype using video processing of an IR camera feed, reduced the cost of the product by 80%

PROJECTS

- **Statistical and time series analytics of investment portfolios** May - Jul 2017
 - Developed a python toolkit for computing aggregate statistics and risk metrics for investment portfolios
 - Architected the database design and server implementation to efficiently store and manipulate time series data
- **Modeling of glitching effects in estimation of dynamic power consumption** Jul 2013 - Jun 2014
Master's Dissertation, Department of Electrical Engineering (Guide: Dr. Nitin Chandrachoodan)
 - Implemented *probability propagation algorithm* to estimate average number of transitions at every node in a circuit
 - Incorporated Monte Carlo analysis, graph-based algorithms and density estimation techniques to identify high glitch nets

COURSE WORK & SKILLS

CMU - Advanced Machine Learning*, Deep Learning*, Search Engines*, Machine Learning with Large Datasets*
IIT Madras - Data Structures & Algorithms, Machine Learning, Probability and Stochastic Processes
- Image Signal Processing, Graph Theory, Analog & Digital Signal Processing
Programming - Python, C, C++, Java, Matlab, R, Octave, Shell, Perl, Hadoop, MapReduce, MongoDB, SQL

AWARDS, TEACHING & LEADERSHIP

- **Vice President Public Relations, Koramangala Toastmasters Club**, Toastmasters International, Jan-June 2017 2017
- **Teaching Assistant, Data Structures and Algorithms & Digital IC Design**, IIT Madras 2014
- **Tutor**, short-term course on *Programming In Python* by *Reflections* - Dhruva Club, IIT Madras 2014
- **Tutor**, Computer Organization and Architecture, *Quality Enhancement in Engineering Education* 2014
- **Convenor, Electronics Club**, IIT Madras 2013
- **Campus Winner** (among top 3 in India), *Goldman Sachs Quantify*; represented IIT Madras for finals at GS Bangalore 2013
- **2nd prize**, General Electric Research Expo; Amongst **top 9** (out of 120), *Schneider Electric Innovation Challenge* 2012

*Currently undertaking