

# Nishant Gupta

CSE, IIT Kanpur



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## Education

B. Tech, CPI - 9.4/10 May 2017  
CSE, IIT Kanpur

HSCE (+2), 93.6% April 2013  
Shivpuri Public School

AISSCE, 9.6/10 April 2011  
Tara Sadan School

## Awards and Achievements

- JEE 2013 - AIR 248 out of 0.15 Million shortlists(1.3 million total)
- Academic Excellence Award (IITK)
- KVPY Scholar
- Qualified Regional mathematical Olympiad

## Tool-Kit

### Languages

Python, C/C++, Haskell, Agda, R, Bash, Javascript, Scala, Perl, x86 Assembly

### Frameworks/Libraries

django, OpenCV, Parsec, data.table, dplyr, ggplot, cabal, Angular, spark

### Operating Systems

Linux(Gentoo, ArchLinux, NixOS)

### Others

Emacs, Vim, Git, svn, ElasticSearch,  $\LaTeX$ , css/scss, SQL, HTML, nix

## Relevant Courses

Computer Networks, Machine Learning, Compiler Design, Functional Programming, Databases, Programming Languages, Software Architecture, Operating Systems,

## Extra Curricular

- Sentiment Analysis of Social Media, Jul'14-Aug'14  
Won 1st prize in Web-Dev, a webapp development competition in Takneek'14.
- Secretary, Programming Club 2014-2015
- Coordinator, Funzone, Udhghosh'14 Aug'14

## Professional Experience

Goldman Sachs

Intern, Bangalore

May '16-July'16(10 weeks)

- Job Failure analytics
  - Improvised Job Failure prediction model and automated the crucial task of structured analytics.
  - Proposed and tested root cause detection model which leverages micro and macro failure patterns to detect probable failure causes and sends recommendation to concerned teams.
- ETA and SLA Breach prediction model
  - Transformed ETA and SLA prediction model to account for more complex dependencies.
  - Designed and partially implemented a dynamic model which
    - Can dynamically incorporate Job failure model to alter the prediction.
    - Changes prediction dynamically in reaction to various jobs and telemetries.
    - In manual testing, exhibited twice the recall and a slight increase in precision
- Rewrote the entire data ingestion pipeline for both models which now accounts for 90 percent of jobs compared to 60 percent in earlier pipeline and with 40 percent more efficiency.

### Altisource Business Solutions

Intern, Bangalore

May '15-July'15(8 weeks)

- Worked on the projects Actor Equivalence and Identity Stitching and Event Data Clustering for the company's consumer analytics product 'Pointilist'
- Designed an algorithm for solving the actor equivalence problem (Established a relation between actors and streaming events) for single Multiple platforms.
- Built a generic framework that takes varying Consumer data from different tenants and Processes, normalizes and Clusters it to derive meaningful inferences.

## Selected Projects

Hscrapers: A Haskell library to scrape and crawl webpages.

- Nishant9/Hscrapers, *hackage*: Hscrapers(Current maintainer)
- Developed an HTML Parser and a basic query language parser with support for contiguous filtering with optional attribute matching.
- HTML Parser parses correct HTML by itself and has tidyhtml bindings to correct malformed html.
- Includes a Network module that is a wrapper around http-conduit to allow for bulk requests with varying parameters and responses.

Detection and Classification in Video Surveillance feed

- Mentor: Prof. Harish Karnick Jan'16-Apr'16
- Achieved greater than 95 percent accuracy and precision using Recurrent Convolutional neural networks described in Faster R-CNN paper published in NIPS 2015
- Also achieved greater than 85 percent precision and recall using traditional approaches for image processing and feature extraction such as Mixture Of Gaussians(MoG), Non-maximum Suppression(NMS), HSV, HoG(Histogram of Gaussians), SIFT.

## Other Projects

- ScalaCompiler
- Nishant9/scalaCompiler
- CodeCloud
- Nishant9/cccloud
- Operating Systems
- Nishant9/CS330\*
- Web Platform
- Image Triangulation
- News Map

Scala compiler in Python, implements dynamic scoping, type checking and basic type inference.

Code management website primarily for Competitive programming; uses django, bootstrap3 and sqlite

System calls, Signal handling, process scheduling and synchronization primitive for NachOS

Various features for a academic networking platform

Image filter that renders image using only triangles

Webapp that scrapes news websites, parses news for location and plots it on a map