**PRAKASH**

**SINGH**

# EDUCATION

## IIT Delhi

*B.tech in computer science CGPA : 9.23 /10*

**DAV DELHI**

*Senior Secondary (CBSE) CG-PA : 10 /10*

**DAV DELHI**

*Higher secondary (CBSE) CG-PA : 9 /10*

**MAJOR PROJECT**

*Class of 2014*

*2013*

*2011*

+91 999999999

[prakash@mail.com](mailto:prakash@mail.com)

New Delhi, India

**PROFILE**

A 4th year B.tech student from IIT Delhi . I am interested in computer vision and machine learning. seeking a full-time position in the field of computers and research , where I can apply my knowledge and skills for continuous improvement.

**Real-Time Tracking of Non-Rigid Objects — Computer Vision -** (2016) Implemented the mean shift algorithm for tracking non-rigid objects in a video sequence Extended the algorithm to handle huge scale changes . Implementation was robust to blur, deformation and partial occlusions

**Go Secure** - (2015)

Used Python scrappers and GibbsLDA for topic identification from the news corpus (NLP) to get the crime index of various routes in the city of Mumbai, using which the app shows the safest and the most optimal path between two destinations.

# OTHER PROJECT

**Movie Recommendation Engine — Foundations of Machine Learning** Developed a movie recommendation engine in Python using popular collaborative filtering techniques.

### E-mail security using PGP

TechnologiesJusedH:Java,Oracle

Developed a software which provides a secured version of e-mail by providing a private verification method to customer at the receiver end of our software using PGP **Multimedia Broadcasting over TCP/IP Network**

Technologies used :Java,Oracle

Developed a multi threaded peer to peer communication system that allows multiple clients to interact with each other and share the data in a real time environment, i.e., the data broadcasted can be edited online and viewed simultaneously

# RESEARCH EXPERIENCE

### BFSS: Boolean Functional Synthesis Spring 2016

Guide: Prof. S Kiran Sahani , IIT Bombay

Worked on a CEGAR+AIG based state-of-the-art tool (BFSS) for the Boolean Functional Synthesis problem. Devised an algorithm reducing the total number of refinements required at the cost of a few extra SAT calls

### Interpretable Machine Learning Summer 2015

Guide: Prof. TS Bhalla , IIT Bombay

work focuses on the development of methods for visualizing, explaining and interpreting deep neural networks and other black box machine learning models. We developed a principled approach to decompose a classification decision of a DNN into pixel-wise relevances indicating the contributions of a pixel to the overall classification score.

# SCHOLASTIC ACHEIVEMENTS

All India Rank 320 in Joint Entrance Examination by IIT Bombay Cleared Regional Mathematics Olympiad.

Awarded the AP Grade for exceptional performance in courses Logic for CS, Digital Logic Design

Received the Institute Academic Award, IIT Bombay for exceptional academic performance in 2014-15

Awarded the NTSE (National Talent Search Examination) Scholarship in 2012 by

N.C.E.R.T. New Delhi

# WORKSHOPS ATTENDED

Attended the 2014 Winter School on Machine Learning and Computer Vision organized by IISc Bangalore , featuring lectures by researchers such as Jitendra Malik, William Freeman.

Attended the Special Interest Groups in Communications (SIGCOMM) Conference, 2015.

Attended the Seventh Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP).

# RELEVANT COURSES

**Computer Science**: Computer Vision, Digital Image Analysis, Approximation Algorithms, Numerical and Scientific Computing , Parallel Programming ,Computer Networks, Operating Systems, Theory Of Computation, Analysis and Design of Algorithms ,Computer Architecture, Discrete Mathematical Structures, Data Structures. **Mathematics:** Graph Theory , Numerical Optimization, Statistical Methods and Algorithms, Probability Theory, Stochastic Process, Real Analysis, Differential Equations, Linear Algebra, Matrix Theory.

# TECHNICAL SKILLS

**Programming Languages** Fluent in C++, Lua, Python; Familiar with Java, VHDL

**Libraries** Torch, NumPy, TensorFlow, Scikit-Learn

**Software Skills** git, MATLAB, GNU Octave, AutoCAD, LATEX, CMake

**Web Development** HTML, CSS, JavaScript, PHP, Laravel (PHP), Django,

MySQL, PostgreSQL

# POSITION OF RESPONSIBILITY

### Teaching Assistant, IIT Bombay

MA 105 : Advanced Calculus under Prof. VK.Rana , Autumn ’16

CS 226 : Digital Logic Design under Prof.S Bhalla (Awarded TA of the Month) Spring ’16 Member of cultural Committee (2014) & Tech-Fest Organization Committee

Served as a Student Mentor for the CSE Department First Year Students. Helped them get acquainted with the college studies and environment.

# REFERENCE

**S Kiran Sahani**, Professor, Department of Computer Science and Engineering, Indian Institute of Technology Bombay , +91-011-11111111, [skiran@cse.iitd.ernet.in.](mailto:skiran@cse.iitd.ernet.in)