

# Sidhant Nagpal

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## SKILLS

Deep Learning • Algorithms • Math  
Reinforcement Learning • Open Source

## LANGUAGES

Python • C • C++ • Julia • Java  
SQL • Bash • LaTeX • HTML • CSS

## LIBRARIES & TOOLS

PyTorch • Keras • FluxML • NumPy  
Jupyter/Colab • Selenium • Flask  
Git • Matlab/Octave • Postman

## EDUCATION

### UNIVERSITY OF DELHI BE IN COMPUTER SCIENCE

2015-19 (expected) | Delhi, India  
Netaji Subhas Institute of Technology  
Percentage: 82.16% (upto 6 sems)

### BAL BHARATI PUBLIC SCHOOL

Grad. May 2015 | Pitampura, Delhi  
AISSCE (Class XII): 96%  
AISSE (Class X): Cum. GPA 10.0/10.0

## PROJECTS

### • Deep Learning for CV

Image Generation using GANs (DCGAN, LSGAN, WGAN), Image Denoising using Residual Learning, Image Style Transfer, Transfer Learning using Deep CNNs

### • Deep Learning for NLP

Text Classification using FastText (bag of tricks) model, Sentiment Analysis using GloVe and LSTM model, Language Model using GRU

### • Deep Learning for RL

DQN (Deep Q-Network) and Double DQN for Q-learning to solve OpenAI gym problems

### • Game Playing AIs

Intelligent solvers for N-Puzzle, N-Queens, Tic-Tac-Toe, Sudoku using Heuristic Search, Minimax, Hill Climbing, Simulated Annealing

### • Formal Language & Automata

Implemented Finite, Push-Down Automata, Turing Machine for Formal Languages

### • GitHub Mini-Projects (Python)

Web App (Flask) for real-time ranking based on Elo rating and Web Scraper (Selenium) for tracking progress on Programming Judges

## LINKS

Github:// [SidhantNagpal](#)  
LinkedIn:// [SidhantNagpal](#)  
Web:// [sidhantnagpal.com](#)

## EXPERIENCE

### GOOGLE SUMMER OF CODE | DEVELOPER FOR SYMPY

Feb 2018 - Aug 2018 | Remote *Mentor: Prof. Kalevi Suominen (University of Helsinki)*

- Implemented **discrete transforms, convolutions, recurrences** modules using efficient algorithms and paradigms (Dynamic Programming, Divide and Conquer) for **SymPy**, a **NumFOCUS** sponsored Python library for Symbolic Mathematics
- Contributed to SymPy modules for matrices, differential equations, solvers, combinatorial functions, SymPy bot (based on GitHub API) and Sphinx docs

### INTUIT | SOFTWARE ENGINEERING INTERN

May 2018 - Jul 2018 | Bangalore, India

*Manager: Karthik Krishna (QBDT)*

- Incorporated encryption logic and distributed message queue to decouple the monolith - **IntuitMarket.com** (QuickBooks e-commerce) for AWS migration
- Contributed to Intuit Data Protection Services (IDPS) SDK for Cryptography
- Hackathon runner-up for implementing IoT & AI-based solutions for **Intuit Mint** to automate expense tracking using NFC trigger and Google Assistant

### INDIAN INSTITUTE OF TECHNOLOGY | RESEARCH INTERN

Jun 2017 - Jul 2017 | Kanpur, India *Supervisor: Prof. Raghunath Tewari (IIT Kanpur)*

Worked on the Dynamic DFS problem in Graph Theory and presented an efficient algorithm based on Heavy-Light Decomposition from the paper [arXiv:1502.02481v3](#)

## POSITIONS OF RESPONSIBILITY

- Project Collaborator, SymPy** Active contributor and Pull Request reviewer
- Mentor, Google Code-in** Mentored students for Open Source under SCoRe lab
- Delegate, PyCon India** Organised and conducted a developer sprint for SymPy
- Volunteer, Intuit** Created tactile stories for blind children (We Care & Give Back)
- Volunteer, WARUDA NGO** Created awareness about computer literacy

## PROGRAMMING EVENTS

2018 Rank 464/24K+

2017 Rank 1668/25K+

2017 Rank 105/1K+

2017 Rank 60/800+

2017 Rank 26/250+

2017 Rank 41/100+

2016-18 Top 200/300K+

2015-18 Solved 1000+ problems

**Google Code Jam Round 3 (semi-final)**

**Google Code Jam Round 2 (quarter-final)**

**Google Kickstart Round G**

**Google Kickstart Round B**

**ACM-ICPC Asia Regionals, Amritapuri**

**ACM-ICPC Asia Regionals, Gwalior**

**Sphere Online Judge (SPOJ)**

Programming Judges (Codeforces, SPOJ, etc)

## ACHIEVEMENTS

2016-17 Merit Scholarship

2016 Ramanujan Award

2015 99.81%tile among 1.3M+

2015 Fellowship Award

2014 Top 1.33% among 3L+

2013 Best Player & Team Captain

2011 Bronze Medallist

2010 IOM Silver Medallist

2010 IMMO Silver Medallist

2008-15 Scholar Platinum Medal

Dean's Merit List, Computer Eng. Dept.

Math courses, Computer Eng. Dept.

Joint Entrance Examination (JEE) Main

Kishore Vaigyanik Protsahan Yojana (KVPY)

National Talent Search Examination (NTSE)

Inter-School Hockey Tournament

Inter-Zonal Hockey Tournament

International Olympiad of Mathematics

International Master Mathematics Olympiad

Academic excellence for 8 years, High School