

# Sidhant Nagpal

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## SKILLS

Deep Learning • Algorithms • AI/ML  
Applied Mathematics • Open Source

## PROGRAMMING

C/C++ • Python • Java • SQL  
Bash • Go • LaTeX • HTML • CSS

## TOOLS & FRAMEWORKS

PyTorch • Keras • scikit-learn • NumPy  
Jupyter/Colab • Matplotlib • Selenium  
Git • AWS SQS • DialogFlow • Flask

## EDUCATION

### UNIVERSITY OF DELHI

#### BE IN COMPUTER SCIENCE

2015-19 (expected) | Delhi, India  
Netaji Subhas Institute of Technology  
Percentage: 82.16% (Top 5%)

### BAL BHARATI PUBLIC SCHOOL

Grad. May 2015 | Delhi, India  
AISSCE (Class XII): 96%  
AISSE (Class X): CGPA 10.0/10.0

## PROJECTS

- **Deep Learning for CV and NLP**  
CV: Image Denoising (Residual Learning),  
Image Style Transfer, Transfer Learning  
NLP: Sentiment Analysis using GloVe (Word  
Embeddings) and RNN (LSTM)
- **Game Playing AIs**  
Intelligent solvers for N-Puzzle, N-Queens,  
Sudoku, Tic-Tac-Toe using Heuristic Search
- **Intuit Mint Assist (Hackathon)**  
Expense tracking automation using Google  
Assistant (AI) and NFC Trigger (IoT)
- **Formal Language & Automata**  
Finite, Push-Down Automata, Turing Machine
- **GitHub Mini-Projects (Python)**  
Flask: Web App for polling based on Elo rating  
Selenium: Web Scraper for Algorithm Judges

## LINKS

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

## EXTRA CURRICULARS

Bronze Medallist, Hockey Inter-Zonals  
Best Player & Team Captain, Inter-School

## EXPERIENCE

### GOOGLE SUMMER OF CODE | DEVELOPER FOR SYMPY

Feb 2018 - Aug 2018 | Remote

- 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

Mentors: **Aaron Meurer**, Lead developer, Staff scientist at University of South Carolina  
**Kalevi Suominen**, Professor Emeritus, Dept. of Mathematics, University of Helsinki

### INTUIT | SOFTWARE ENGINEERING INTERN

May 2018 - Jul 2018 | Bangalore, India

- 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**

### INDIAN INSTITUTE OF TECHNOLOGY | RESEARCH INTERN

Jun 2017 - Jul 2017 | Kanpur, India

Studied the Dynamic DFS problem in Graph Theory and presented an efficient algorithm based on Heavy-Light Decomposition from the **arXiv** research paper by Dept. of CSE, **IIT Kanpur** under the supervision of **Dr. Raghunath Tewari**

## POSITIONS OF RESPONSIBILITY

**SymPy**: Project Collaborator (a position funded by NumFOCUS) and PR reviewer

**Google Code-in**: Mentor for Sustainable Computing Research (SCoRe) Lab

**PyCon India (PSF)**: Delegate, organised and conducted a developer sprint for SymPy

**We Care & Give Back (Intuit)**: Volunteer, created tactile stories for blind children

**WARUDA (NGO)**: Volunteer, created awareness about computer literacy

## PROGRAMMING EVENTS

2018	Rank 464/24K+	<b>Google Code Jam Round 3 (semi-final)</b>
2017	Rank 1668/25K+	<b>Google Code Jam Round 2 (quarter-final)</b>
2017	Rank 105/1K+	<b>Google Kickstart Round G</b>
2017	Rank 60/800+	<b>Google Kickstart Round B</b>
2017	Rank 26/250+	<b>ACM-ICPC Asia Regionals, Amritapuri</b>
2017	Rank 41/100+	<b>ACM-ICPC Asia Regionals, Gwalior</b>
2016-18	Top 200/300K+	<b>Sphere Online Judge (SPOJ)</b>

## ACHIEVEMENTS

2016-17	Merit Scholarship Award	Academic courses, University
2016	Ramanujan Award	Mathematics courses, University
2015	99.81 percentile from 1.3L+	Joint Entrance Examination (JEE) Main
2015	Fellowship Award	Kishore Vaigyanik Protsahan Yojana (KVPY)
2014	Top 1.33% of 3L+	National Talent Search Examination (NTSE)
2014-15	Merit Scholarship Award	Science courses, High School
2008-15	Scholar Platinum Medal	Academic courses, High School
2010	IOM Silver Medallist	International Olympiad of Mathematics
2010	IMMO Silver Medallist	International Master Mathematics Olympiad