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 Engineering
2015-19 | Delhi, India
Netaji Subhas Institute of Technology
Cum. Percentage: 82.16% (top 5%)

BAL BHARATI PUBLIC SCHOOL

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

PROJECTS

- **Deep Learning for CV**
  Image Generation using GANs (DCGAN, LSGAN), Autoencoders, Image Denoising using Residual Learning, Neural Style Transfer, Transfer Learning using 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

sidhantnagpal sidhantnagpal
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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
- Added Fast Fourier Transform, Number Theoretic Transform, Walsh Hadamard Transform, Möbius/Zeta transforms and corresponding convolutions
- Contributed to modules for matrices, calculus, combinatorics, number theory

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
- Presented the project to VP and Chief Architect of Product Development
- 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

- **Org Member, SymPy (GitHub)** Active contributor and pull request reviewer
- **Mentor, Google Code-in** Mentored students for Sustainable Computing Research
- **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+	**Google Code Jam Round 3 (semi-final)**
2017	Rank 1668/25K+	**Google Code Jam Round 2 (quarter-final)**
2017	Rank 105/1K+	**Google Kickstart Round G**
2017	Rank 60/800+	**Google Kickstart Round B**
2017	Rank 26/250+	**ACM-ICPC Asia Regionals, Amritapuri**
2017	Rank 41/100+	**ACM-ICPC Asia Regionals, Gwalior**
2016-18	Top 300/300K+	**Sphere Online Judge (SPOJ)**
2015-18	Solved 1K+ problems	Programming Judges (Codeforces, SPOJ, etc)

ACHIEVEMENTS

2016-17	Merit Scholarship	Dean's Merit List, Computer Eng. Dept.
2016	Ramanujan Award	Math courses, Computer Eng. Dept.
2015	99.81%tile among 1.3M+	Joint Entance Examinantion (JEE) Main
2015	Fellowship Award	Kishore Vaigyanik Protsahan Yojana (KVPY)
2008-15	Scholar Platinum Medal	Academic excellence for 8 years, High School
2014-15	Merit Scholarship	Science courses, High School
2014	Top 1.33% among 300K+	National Talent Search Examination (NTSE)
2011	Bronze Medallist	Inter-Zonal Hockey Tournament
2010	Silver Medallist, IOM	International Olympiad of Mathematics
2010	Silver Medallist, IMMO	International Master Mathematics Olympiad