Sidhant Nagpal

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EXPERIENCE

Tower Research Capital — Gurugram, India

Software Engineer — *Jun 2019 - present*

- Implemented **low-latency exchange simulator** and integrated exchange-specific **matching engines** to provide **on-demand uptime** for usage with the trading platform, **allowing availability** even outside of exchange hours.
- Developed a **financial position accounting** library having support for a range of **asset classes** - having underliers (like futures, options), having legs (like spreads, crypto) in terms of **contracts** and **notional**, used for **risk limits**.
- Deployed the position library as **conda package** through **CI/CD** pipelines with a dedicated build matrix.

Google Summer of Code — Remote

Org Member & Mentor & Student Developer for SymPy — *Feb 2018 - Aug 2019*

- Implemented Fast Fourier Transform, Number Theoretic Transform, Walsh Hadamard Transform, Möbius Transform and corresponding convolutions using **efficient algorithms** and **paradigms**.
- **Mentored** two students for **statistics** projects under SymPy aimed at the inclusion of **compound distributions**, **stochastic processes** and **random matrices**.

Multimodal Digital Media Analysis Lab — Delhi, India

Research Intern, IIIT Delhi & National University of Singapore — *Apr 2019 - Jul 2019*

- Worked on combining **lexicon embeddings** and **word embeddings** to detect **trolling**, **profanity** and **hate-speech** on social media platforms (like reddit, twitter) in collaboration with **Bloomberg LP, USA**.
- Worked on **feature selection** (wrapper-based) for **multimodal text classification** on **MeToo** datasets.

Intuit — Bangalore, India

Software Engineering Intern — *May 2018 - Jul 2018*

- Incorporated **encryption logic** and **messaging queue** (AWS SQS) to **decouple monolith architecture** of Intuit's QuickBooks product - IntuitMarket.com (e-commerce portal) for **AWS migration**.
- Contributed to **Intuit Data Protection Services** SDK for **cryptography** as part of Intuit's Engineering Days.
- Finished in the **top 2** of the intern **hackathon** for implementing **IoT** and **AI**-based solutions for Intuit's Mint product to **automate expense tracking** using NFC and Google Assistant respectively, for the **Android** platform.

EDUCATION

Netaji Subhas Institute of Technology, University of Delhi — Delhi, India

B.E. (Hons.) in Computer Engineering: 82.04% (Class I Distinction) — *2015 – 19*

Bal Bharati Public School, Pitampura — Delhi, India

12th grade (CBSE): 96%; 10th grade (CBSE): CGPA 10.0/10.0 — *2013 – 15*

TECHNICAL SKILLS

Languages: Python, C/C++, Java, Bash, SQL, Go, LaTeX
Libraries: PyTorch, Keras, NumPy, sklearn, pandas, matplotlib, Jupyter, Selenium, Flask

POSITIONS OF RESPONSIBILITY

Mentor, Google Code-in: Reviewed the contributions by students for Sustainable Computing Research lab. — *Fall 2018*
Delegate, PyCon India: Organised a developer sprint for SymPy to engage open source contributions. — *Fall 2018*
Volunteer, Intuit: Created tactile stories for blind children during the 'We Care & Give Back' event. — *Summer 2018*

ACHIEVEMENTS

Google Code Jam: Ranked **464 among 25K+** participants in **Round 3 (semi-finals)** of GCJ Competition. — *2018*
Google Kickstart: Ranked **60 among 800+** participants in **Round B** of Kickstart Competition. — *2017*
ACM-ICPC: Ranked **26 (Honorable Mention)** in **Asia Regionals** of ACM-ICPC Competition at Amritapuri. — *2017*
Dean's Merit List: Awarded **Merit Scholarship** for securing a **top 10** position in Computer Eng. Dept. — *2016-17*
Ramanujan Award: Recognition for **excellent performance** in **Math courses** by Computer Eng. Dept. — *2016*
Joint Entrance Examination: Secured **99.81 percentile among 1.3M+** candidates in **JEE Mains**. — *2015*
Kishore Vaigyanik Protsahan Yojana: Recipient of the **KVPY Fellowship** by Govt. of India. — *2015*
National Talent Search Examination: Among the **top 1.33% from 3L+** candidates in **NTSE** by NCERT. — *2014*
Scholar Platinum Medal: Recognition for **academic excellence** for **8 consecutive years** in High School. — *2008-15*