SIDDHARTH VERMA

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Education

Netaji Subhas Institute of Technology (NSIT), University of Delhi　　　　　　　**New Delhi, India**
*Bachelor of Engineering (Honors) in Computer Engineering, **GPA 3.7/4.0***　　　　*Aug 2015 – Jun 2019*
- *Honors:* **First-class** with **Distinction**, **IEEE scholarship recipient** for research in machine learning.
- *Relevant Coursework:* Data Structures and Algorithms, Artificial intelligence, Operating systems, Database systems, Networking systems, Calculus, Linear Algebra.

Experience

Expedia Group　　　　　　　**Gurugram, India**
Software Engineer II - Loyalty Team　　　　*Apr 2021 - Present*
Software Engineer I　　　　*Jul 2019 - Mar 2021*
- **Led the migration** of micro-services and databases to the AWS cloud infrastructure.
- **Designed and developed** micro-services to perform the loyalty transactions using OAuth 2 authorization protocol.
- Developed a **blockchain (DLT)** combining different loyalty programs and won 2nd prize in the hackathon.
- **Mentored an undergrad intern** to integrate Datadog as application performance tool with Loyalty platform.
- Built RESTful web services in **Java** using **Spring Boot framework**.

University of Pennsylvania　　　　　　　**Philadelphia, USA**
Research Assistant, URBS lab – Perelman School of Medicine – Advisor: Dr. Ryan Urbanowicz　　　　*Dec 2017 –Dec 2019*
- Built an **adaptive biologically inspired ML algorithm** that evolves disparate knowledge representations.
- Modified the Learning Classifier Systems (LCSs), an ML framework, to adapt knowledge as per the given dataset.
- Created a **python library** to perform genetic programming operations in regression and classification problems.

Netaji Subhas Institute of Technology　　　　　　　**New Delhi, India**
Research Assistant – Advisor: Dr. Swati Aggarwal　　　　*Jan 2016 –May 2018*
- Solved training issues in **Generative Adversarial Networks (GANs).**
- Improved the quality of GAN generated images by 30% using autoencoders in **PyTorch** library.
- Proposed an **evolutionary machine learning** technique to play the game of Othello.

Extra-curricular activities

Co-creator and Technical head: *Quoko - Positive News App*　　　　*Jun 2020*
- Created an **app to enhance mental health** of people through positive news cards during COVID-19 pandemic.
- Viewed by **250k+** people across **39 countries** with **1k+ app downloads** and **4.5/5 rating** on Google Playstore.

Invited speaker: *World Congress of Computational Intelligence (WCCI), Rio De Janeiro, Brazil*　　　　*Jul 2018*
- Presented research papers on **evolutionary algorithms** and **reinforcement learning** at the conference.

Summer school: *Indian Institute of Science (IISc), Bengaluru, India*　　　　*Jul 2017*
- Selected in a **cohort of 77 students** from across the country to attend artificial intelligence lectures and workshops.

Publications

- **Verma, S.**, Borole, P. and Urbanowicz, R., 2020, July. Evolving genetic programming trees in a rule-based learning framework. Proceedings of the 2020 Genetic and Evolutionary Computation Conference Companion (pp. 233-234)

- Nagpal, S., **Verma, S.**, Gupta, S. and Aggarwal, S., 2020, July. A Guided Learning Approach for Generative Adversarial Networks. In 2020 International Joint Conference on Neural Networks (IJCNN) (pp. 1-8) IEEE.

- Jain, S., **Verma, S.**, Kumar, S. and Aggarwal, S., 2018, July. An evolutionary learning approach to play Othello using XCS. In 2018 IEEE Congress on Evolutionary Computation (CEC) (pp. 1-8) IEEE.

Technical Skills

Languages: Java (Proficient), Python, HTML/CSS, Bash, Julia, Latex
Technical skills: Scalable web development, Agile development, Cloud development (AWS), SQL, NoSQL
ML skills: Deep Learning, Evolutionary computation, Computer Vision
Technologies/Frameworks: Spring Boot, Unix, Jenkins, GitHub, JUnit
Interests: French-harp player, Currency Connoisseur (collection from 50+ countries), Swimming (8+ years of training)