SIDDHARTH VERMA

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EDUCATION

Netaji Subhas Institute of Technology (NSIT), University of Delhi, India　　　　*Aug 2015 – Jun 2019*
Bachelor of Engineering (Honors) in Computer Engineering
- **GPA:** 8.6/10 (78.19%)
- **Honors:** First-class with Distinction, IEEE scholarship recipient for research in evolutionary computation
- **Relevant coursework:** Calculus, Linear Algebra, Probability and Information theory, Theory of automata, Artificial intelligence, Operating systems, Database systems, Data Structure and algorithms, Networking systems

WORK AND RESEARCH EXPERIENCE

Expedia Group, Gurgaon, India
Software Engineer – Loyalty Team　　　　*Jul 2019 – Present*
- **Led the migration** of micro-services and databases to the AWS cloud infrastructure.
- **Designed and developed** the invoicing algorithm for business use cases involving points and cash refunds.
- Developed a **blockchain based service** 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* web framework.

Software Engineer Intern　　　　*Jun 2018 – Jul 2018*
- Created an application that **reduced partner onboarding time by one-third** using MuleSoft platform.

University of Pennsylvania, Philadelphia, USA　　　　*Dec 2017 – Dec 2019*
Research Assistant, URBS lab – Perelman School of Medicine – Advisor: Dr. Ryan Urbanowicz
'Co-evolving genetic-programming (GP) trees in a rule-based learning framework'
- Proposed a **problem-driven machine learning system** by integrating GP trees in an evolutionary rule-based LCS.
- Created a **python library** to perform genetic programming operations in regression and classification problems.

Netaji Subhas Institute of Technology, New Delhi, India　　　　*Jan 2016 – May 2018*
Research Assistant – Advisor: Dr. Swati Aggarwal
'Solving training issues in Generative Adversarial Networks (GANs)'
- **Improved the cost function** of GAN by leveraging autoencoders using PyTorch library.

'Evolving game playing strategies using an evolutionary reinforcement learning technique'
- Proposed an approach to **play Othello using LCS**, a reinforcement learning ML framework in *Java*.

EXTRA-CURRICULAR ACTIVITIES

Quoko – Positive news app: *Co-creator and Technical Head*　　　　*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.

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.

SKILLS AND INTERESTS

Computer Languages: Java and Python (Proficient), Bash, SQL, C++, Julia, LaTeX

Technical Skills: Deep Learning, Evolutionary computation, Computer Vision, SQL, DynamoDB, MongoDB
Industry Skills: Spring framework, AWS services, Agile development, Scalable web development
Online courses: Deep learning specialization, AI for medical diagnosis- deeplearning.ai, Mathematics for ML- Coursera
Interests: French-harp player, Currency Connoisseur (collection from 50+ countries), Swimming (8+ years of training)