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
- **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

RESEARCH AND WORK EXPERIENCE

Expedia Group, Gurgaon, India **Jul 2019 – Present**

Software Engineer

- Developing **scalable microservices** for performing financial transactions on the e-commerce platform.

University of Pennsylvania, Philadelphia, USA **Dec 2017 – Dec 2019**

Research Assistant, URBS lab – Perelman School of Medicine

"Co-evolving genetic-programming (GP) trees with rules in Learning Classifier System (LCS)"

- Developed a **problem-driven machine learning system** by integrating GP trees in the evolutionary rule-based LCS.
- Created a **python library** to perform genetic programming operations in regression and classification problems.
- Enhanced the performance of GP tree operations in terms of **execution speed and tree representation**.
- *Advisor: Dr. Ryan Urbanowicz*

Expedia Group, Gurgaon, India **Jun 2018 – Jul 2018**

Software Engineer Intern

"Smart Connect Bank Adaptor"

- Developed a framework to perform transactions with bank partners using **Enterprise Service Bus architecture**.
- Reduced time of on-boarding banks on Expedia's platform from **3 months to 3 days.**

Netaji Subhas Institute of Technology, New Delhi, India **Jan 2016 – May 2018**

Research Assistant

"Solving training issues in Generative Adversarial Networks (GANs)"

- Extracted the feature representations from autoencoder and reused them in GAN to **mitigate modal collapse**.

"Evolving game playing strategies using an evolutionary reinforcement learning technique"

- Proposed an approach to **play Othello using XCS**, a reinforcement learning LCS framework.

PUBLICATION AND WORKING PAPERS

- S. Jain, **S. Verma**, S. Kumar and S. Aggarwal, "**An Evolutionary Learning Approach to Play Othello Using XCS**" *IEEE Congress on Evolutionary Computation (CEC)*, Rio de Janeiro, Brazil, 2018, pp. 1-8.
- **S. Verma**, P. Borole, RJ. Urbanowicz, "**Evolving Genetic Programming Trees in a Rule-Based Learning Framework**". Submitted to GECCO 2020 conference.
- **S. Verma,** S. Nagpal, S. Gupta, "**A Guided Learning Approach for GAN**". Submitted to IJCNN 2020 conference.

INTERNATIONAL CONFERENCE AND EXTRA CURRICULAR ACTIVITY

World Congress of Computational Intelligence (WCCI), Rio De Janeiro, Brazil **Jul 2018**

Invited Speaker

- Presented research ideas on **evolutionary algorithms** and **reinforcement learning** at the conference.

Indian Institute of Science (IISc), Bengaluru, India **Jul 2017**

Summer School Student

- Selected in a **cohort of 77 students** from across the country to witness latest research in artificial intelligence.

SKILLS AND INTERESTS

Computer Languages: Java, Python, C++, Julia
Libraries and Tools: TensorFlow, Keras, PyTorch, DEAP, NumPy, Spring, SQL, Shell scripting, LaTeX
Technical Skills: Deep Learning, Reinforcement Learning, Evolutionary computation, Computer Vision
Online courses: Deep learning specialization - deeplearning.ai, Reinforcement learning - DeepMind, Unix Workbench
Interests: French harp player, Currency Connoisseur (collection from 50+ countries), Swimming (8+ years of training)