Vaibhav Gupta

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Education

Courant, New York University — New York, USA
Master of Science in Computer Science; GPA: 3.97/4 — *Sep. 2018 – May 2020*

Dhirubhai Ambani Institute of Information and Communication Technology — Gujarat, INDIA
Bachelors of Technology in Computer Science; GPA: 8.0/10 — *Aug. 2010 – June 2014*

Experience

Human and Machine Learning Lab, NYU — New York, USA
Assistant Research Scientist — *Sep. 2019 – Present*

- Working with Professor Brenden Lake and his team, with the aim of using Machine Learning and Deep Learning techniques to model how learning takes place in humans. *lake-lab.github.io/people*
- Have gained significant experience in training and analysing large-scale self-supervised models for computer vision tasks.

Grab Technologies — Washington, USA
Senior Software Developer — *July 2020 – Present*

- Currently building the next generation A/B Testing and Data Analytics Platform to get customer insights.
- Previously interned with the Ads Team. Built an internal portal where marketers could create campaigns for automatic propagation to multiple Ad Platforms.

Amazon — Bangalore, INDIA
Software Development Engineer — *July 2014 – August 2017*

- Worked on a website product end-to-end, from Frotend UI to Backend Services and Data-stores.
- Later worked with the Social Ads Team on Revenue Optimization and Big Data Analytics.

Papers

Self-Supervised Learning through the Eyes of a Child — **Accepted at NeurIPS 2020**

- Utilized modern self-supervised deep learning methods and a recent longitudinal, egocentric video dataset recorded from the perspective of several young children, to model cognitive development in human babies.
- ArXiv Link: *2007.16189* | Press Coverage - *NewScientist*, *DigitalTrends*

Projects

BlackJack RL Agent and Cognitive Models | *github.com/guptv93/blackjack* — Feb 2019 – May 2019

- Developed the optimal strategy for BlackJack using SARSA and Q-Learning reinforcement learning techniques.
- Used the optimal strategies (and a few other probabilistic heuristics) to model how humans make decisions during BlackJack. For this, actual human data was collected using an online BlackJack simulator.

Static Prediction of GPU Speed-up — Sept 2019 – Dec 2019

- Modelled the speed-ups achieved by CUDA devices on various benchmark tasks, using the static features for those tasks and devices. Useful for Job Management Systems (JMS) for GPUs.
- Related research paper currently under submission at IPDPS 2021.

Programming Skills

Languages: Python, Java, JavaScript, GoLang, CUDA
Frameworks: Hadoop, Docker, Kubernetes, AWS, Azure
ML Libraries: PyTorch, NumPy, Scikit-learn, Pandas
Database: SQL, DynamoDB, Redis, MongoDB

Selected Coursework

Machine Learning, Deep Learning, Computer Vision, Maths for CS, GPU, Computational Cognitive Modeling.