Vaibhav V. Gupta

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SUMMARY:

Full-stack developer, proficient in **Machine Learning** (NumPy, Pandas, Scikit-learn, PyTorch, SQL, NoSQL, Big-Data), **Cloud Technologies** (AWS, Azure), **Web Development** and **Software Design & Architecture**. Ex-Amazon. Currently working as a Senior Developer at Grab and Research Assistant in Human and Machine Learning Lab at NYU under Prof Brenden Lake.

SKILL SET:

Languages	:	Python, CUDA, Java, JavaScript, Scala
Machine Learning Technologies	:	PyTorch, Scikit-learn, NumPy, Pandas
Databases	:	SQL, DynamoDB, Redis, MongoDB, ElasticSearch
Big Data Technologies	:	Hadoop, Hive
Cloud Technologies	:	Azure, AWS
Server-side Technologies	:	Spring Boot, Spring MVC, GRPC, NodeJS
Dev-Ops	:	Docker, Kubernetes

WORK EXPERIENCE:

Senior Software Developer — **Grab Technologies** — **July 2020 – Present**

Currently working with the Experimentation Platform Team, trying to build the next generation A/B Testing and Analytics Platform. Previously interned with the Data Insights Team (Ads Division). Created an internal portal where marketers could create campaigns and the campaigns would automatically be propagated to multiple Ad Platforms and Demand-side Platforms.

Research Assistant — **Machine Learning Lab, NYU** — **Sep 2019 – July 2020**

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. My work is mainly focused on Self Supervised Deep Learning. Have gained significant experience in training and analysing large-scale self-supervised models for computer vision. Currently volunteering with the lab part-time.

Software Development Engineer — **Amazon** — **July 2014 – August 2017**

Worked as a Software Development Engineer for two teams, namely BuyVIP and Social Ads. At BuyVIP, we were responsible for developing and maintaining a multi-tier website application end-to-end, including the presentation layer (BackboneJS, Servlets and JSPs), the business layer (SOAP services) and the persistence layer. At Social Ads, we used big-data technologies to track and optimize the impressions, clicks and revenue generated by product ads on platforms like Facebook, Instagram etc.

EDUCATIONAL DETAILS:

Courant Institute of Mathematical Sciences, New York University — **GPA: 4.0**
Master's Degree, Computer Science, 2018 – 2020
Courses: Deep Learning, Computer Vision, Cognitive Modelling, Machine Learning, Mathematics for CS.

Dhirubhai Ambani Institute of Information and Communication Technology
Bachelor's Degree, Computer Science, 2010 - 2014

TECHNICAL PROJECTS:

Learning from the Eyes of a Child — **Sep 2019 – Present**
GitHub: github.com/guptv93/saycam-metric-learning
ArXiv Paper: https://arxiv.org/abs/2007.16189
Position: Research Assistant, Human and Machine Learning Lab, NYU.
Our project focuses on making a neural network learn from the same visuals that a human child comes across during its cognitive development. Our approach is based on Self Supervised Metric Learning using Contrastive Loss. Have trained and analysed multiple large-scale models on first person visual experience. Technologies used include Python, PyTorch, NumPy, etc.

BlackJack RL Agent and Cognitive Models — **Mar 2015 – Apr 2015**
GitHub: github.com/guptv93/blackjack
Guide: Prof. Breden Lake
The main objective of this project was to investigate how human beings make decisions during the game of Blackjack. For this, the optimal strategy for playing BlackJack was derived using SARSA and Q-Learning reinforcement learning techniques and a few probabilistic heuristics were also developed. Human data has been collected by building an online blackjack simulator. The various cognitive models have been compared using likelihood estimation on human data and finally, conclusions have been drawn on how humans make decisions and strategize.

MediaMath Marketing Platform **Jun 2019 – Aug 2019**
Team Size: 1
Position: SDE at Data Insights, Grab Technologies.
The objectives of the project were creation of (i) Reporting Service to fetch Ad Performance Stats from MediaMath (ii) Campaign Management Service to create and update MediaMath Ads and (iii) Dynamic Web-portal for advertisers to easily create Ads using Campaign Management Service. The project was also designed to serve as a prototype of using a HTTP/2 service as a backend for a HTTP website. Technologies used : Spring, GRPC, Docker, Kubernetes, Helm, Azure Blob Storage, Bootstrap, JQuery.