

Akshit Arora

✉ akshit.arora@colorado.edu
📁 [aroraakshit.github.io](https://github.com/aroraakshit)
San Francisco, CA, USA
Updated July 2022

Work Experience

- 2019 – Present **Senior Data Scientist (Solutions Architect)**, NVIDIA.
Develop and demonstrate solutions based on NVIDIA's state-of-the-art ML/DL, data science software and hardware technologies to NVIDIA's partners. Perform in-depth analysis and optimization to ensure the best performance on GPU architecture systems.
- 2018 **Machine Learning Intern**, WOOT MATH.
Trained a recurrent neural network (RNN) based stroke data classifier to detect whether students are drawing doodles or actually working on math problems their devices. Achieved 70% accuracy and fine-tuned the model for mathematical categories using synthetic data.

Education

- 2017 – 2019 **M.S. in Computer Science**, *University of Colorado Boulder*, CO, USA.
Graduate Coursework: Machine Learning, Neural Networks and Deep Learning, Natural Language Processing, Big Data Architecture, Recommender Systems, Introduction to Virtual Reality
- 2013 – 2017 **B.E. in Computer Engineering**, *Thapar University (TU)*, Patiala, PB, India.
Major Project: Augmented Reality for Training Tactical Personnel.

Publications

- EDM 2018 **Does Deep Knowledge Tracing Model Interactions Among Skills?**, *S Montero**, **A Arora***, *S Kelly, B Milne, MC Mozer*, Educational Data Mining 2018, Buffalo, NY [↗](#).
- NHESS 2018 **Learning in an interactive simulation tool against landslide risks: the role of strength and availability of experiential feedback**, *P Chaturvedi, A Arora, V Dutt*, Natural Hazards and Earth System Sciences Journal [↗](#).
- AHFE 2016 **Interactive Landslide Simulator: A tool for Landslide Risk Assessment and Communication**, *P Chaturvedi, A Arora, V Dutt*, Springer Applied Human Factors & Ergonomics 2016, Orlando, FL [↗](#).

* = Equal Contribution

Invited Talks

- 2020 **Scalable Hyper-parameter Optimization using RAPIDS and AWS** - PyBay 2020
- 2020 **Accelerating Machine Learning with GPUs** - AICamp

Achievements and Professional Activities

- 2021 **Path to Master's in Computer Science** - Alumni Talks by Creative Computing Society of Thapar University
- 2021 **Balancing research and academia** - Podcast by Vishwas Narayan
- 2021 **Career in Data Science at NVIDIA** - Career Contrails podcast
- 2020 **Mentored students** on creating, finding and interviewing for the right opportunities in the software industry during COVID-19 via UnsaidTalks platform.
- 2020 **Mentored a team** at GPU Hackathon 2020, organized by Brookhaven National Laboratory.

- 2017 – 2019 **Teaching Assistant** for Introduction to Social Statistics, Introduction to Computer Science and Data Structures.
- 2018 **Outstanding Poster Award (M.S.)** at the Graduate Student Research Expo organized by Department of Computer Science, CU Boulder.
- 2018 **Travel Fellowship Award** for presenting research paper at EDM 2018 by Institute of Cognitive Science, CU Boulder.
- 2016 **Travel Fellowship Award** for presenting research paper at AHFE 2016 by IIT Mandi and TU Patiala.
- 2014 **International Workshop on Machine Learning Algorithms and Data Analytics** organized by IEEE Computer Society, TU Patiala.

Selected Projects

- 2018 **Deep Knowledge Tracing via RNNs:** Researched on tracing student's knowledge state on online tutoring platforms: Trained and evaluated RNN based deep learning models using TF for deep knowledge tracing and compared them with the traditional Bayesian knowledge tracing approach. Supervisor: Prof. Michael C. Mozer.
- 2018 **Weather prediction using CNNs:** Developed a CNN-based prediction model in an attempt to produce temperature and precipitation short & long range forecasts using global time-series climate data from NOAA. Compared the performance with traditional approaches used in the climate domain. Implemented using *PyTorch*. Supervisor: Prof. Claire Monteleoni.
- 2018 **Presence Brush - Extending SketchRNN to 3D:** Created an extension to Mozilla's A-painter project where the user can draw a sequence of strokes and a neural network model (Google's SketchRNN) completes it to make a doodle using *NodeJS / TensorFlowJS / HTC Vive / A-Frame / ExpressJS*.
- 2018 **Detecting online abuse:** Built a real-time and scalable machine learning (ML) based toxicity monitoring tool. Evaluated and deployed ML models on Wikipedia's detox dataset to analyze tweets in real-time using *Apache Storm / Apache Kafka / AWS Lambda / Keras*.
- 2019 **Personalized Health:** Built an mobile application for recommending run time and distance using machine learning. Trained a decision tree using a simulated dataset based on couch to 5K plan using CoreML framework by Apple. Packaged the model and UI as an iOS application using *CoreML / Xcode / iOS / Swift / Pandas / Scikit-Learn*.
- 2019 **Serverless analytics solution:** Implemented a serverless pixel tracking based analytics solution for Google Cloud Platform (GCP). Built Ruby based SDK and CLIs to manage analytics events on *GCP BigQuery and Data Studio*.
- 2017 **Marker based Augmented Reality:** Evaluated augmented reality (AR) libraries: Designed scenarios for military training using AR and evaluated libraries including *Vuforia, Kudan AR, AR Toolkit, Microsoft HoloLens, Google Tango*. Performed experiments to be used for cognitive profiling of military personnel. Supervisor: Dr. Varun Dutt at IIT Mandi.
- 2015 **Interactive Landslide Simulator:** Created a serious game for education about landslides: Built a web-based interactive landslide simulator and studied the effect of affective feedback on awareness about landslide mitigation techniques in the Himalayan region. Supervisor: Dr. Varun Dutt at IIT Mandi.