# AKSHAY  SHARMA

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## EDUCATION

**Columbia University**                                                                          New York, NY
*MS in Computer Science, Machine Learning Track*                               Expected Dec 2022
**Courses**: Deep Reinforcement Learning, Adv. Spoken Language Processing, Computer Vision

**Indian Institute of Technology**                                                              Varanasi, IN
*Dual Degree in Mathematics and Computing, CPI: 9/10*                                 May 2021
**Courses**: Natural Language Processing, Optimization Techniques, Digital Image Processing

## WORK EXPERIENCE

**Rejoy Health**                                                                                     New York, NY
*Full Stack Developer, Mobile Product Team*                                              Jan - Jul 2021
- Developed a cross-platform Flutter app to correct patient body pose.
- Added desktop support (Windows, Linux, MacOS) for Tensorflow Lite in Flutter.
- Devised a backend server using EC2, Node.JS, and GraphQL.
- Launched 3 major features; $\sim$30% MoM growth in user engagement.

**Goldman Sachs**                                                                                 Bengaluru, IN
*Summer Analyst, Global Asset Management Division*                                 May - Jun 2020
- Developed a scalable, micro-services health check server using Prometheus and Apache Kafka.
- Created an internal platform to stream garnered analytics using React.JS and Spring Boot.

**Adobe**                                                                                                  Noida, IN
*Product Intern, I19N Team*                                                                     May - Jul 2019
- Improved Google's CNN-RNN architecture for classifying sketches in Photoshop.
- Outperformed SketchNet (state-of-the-art, 2018) by 12% mAP on Quickdraw dataset.
- Modelled a BERT API to summarize user's art journey to a blog on Adobe Spark.
- Wrote a PySpark script to query Experiences DB, $\sim$60x faster compared to Hadoop.

## SKILLS & PROJECTS

Expert in C++, Flutter, React.JS, AWS Tech Stack, PyTorch. Experience in Kafka, Spark, GraphQL.

**Google Summer of Code 2020 @ JuMP, Julia**                                       Jul - Sep 2020
Designed DiffOpt.jl, a differentiable convex optimization programming package in Julia.

**Google Summer of Code 2018 @ ViSP, INRIA**                                       May - Aug 2018
Leveraged C++ to create an Android SDK for real-time object pose detection and OpenGL rendering.

## RESEARCH EXPERIENCE

**Scalable Clustering of Lines** - *Thesis*                                                       [Link]
Introduced a scalable algorithm for clustering lines and affine subspaces of fixed dimensions.
Achieved data reduction via coreset approximating; ran simulations on PARAM supercomputer.

**Discounted Stochastic Games and Applications** - *UG Project*                          [Link]
Devised a markov perfect game for intrusion detection and proved it was robust in terms of
constraint sensitivity. The work was published as **Globalized Robust Markov Perfect Equilibrium for
Discounted Stochastic Games and its Application on Intrusion Detection in Wireless Sensor
Networks**, *Japan Journal of Industrial and Applied Mathematics*, Volume 37, 283–308 (2020).