

# AKSHAY SHARMA

+1 646-371-6198 · [as6429@columbia.edu](mailto:as6429@columbia.edu) · [linkedin.com/akshay326](https://www.linkedin.com/akshay326) · [akshay326.github.io](https://akshay326.github.io)

## EDUCATION

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### 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

## SKILLS

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

## EXPERIENCE

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### Rejoy Health

New York, NY

Mobile App Team

Aug 2020 - Aug 2021

- Improved product by building a cross-platform Flutter app and adding desktop support.
- Devised new microservices-based backend on AWS, using dockerized computer vision models.
- Launched two major features in six months; ~30% MoM growth in user engagement.

### Goldman Sachs

Bengaluru, IN

Analyst, Global Asset Management Division

May 2020 - Jun 2020

- Developed a scalable, micro-services health check server using GraphQL 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 2019 - 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, ~60x faster compared to Hadoop.

## PROJECTS

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### Google Summer of Code 2020 @ JuMP, Julia

Designed [DiffOpt.jl](#), a differentiable convex optimization programming package in Julia.

### Google Summer of Code 2018 @ ViSP, INRIA

Leveraged C++ to create an Android SDK for real-time object pose detection and OpenGL rendering.

### 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).

### Scalable Clustering of Lines - Thesis

[\[Link\]](#)

Introduced a scalable algorithm for clustering lines and affine subspaces of fixed dimensions. Achieved data reduction via coresets approximating; ran simulations on PARAM supercomputer.