

# Aman Bansal

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## Education

**Stanford University** 2021 - 2023  
*Master of Science in Computer Science* GPA: **3.9/4.0**; Specializing in Artificial Intelligence

**Indian Institute of Technology Bombay** 2016 - 2020  
*Bachelor of Technology in Computer Science with Honours* GPA: **9.68/10**

- Recognized with the **Award for Excellence in Research** in the Bachelor's Thesis Project 2020
- Amongst the top 2 in the department to receive the **Institute Academic Award** 2019
- Department Academic Mentor**: Mentor to 6 sophomores for helping them cope up with the curriculum 2019

## Work Experience

**Glean Inc.** | *Software Engineer Intern* Jun 2022 - September 2022

- Worked on improving the search results for user queries based on the clicks on the existing queries

**Rubrik Inc.** | *Software Development Engineer* Jul 2020 - September 2021; May 2019 - Jul 2019 (Intern)

- Created micro-services to unify the data management tech stack of Rubrik's SaaS and on-prem product
- Filed a **patent** for a recommendation system which could predict data cloud costs and suggest ways to reduce them

**Haptik Pvt. Ltd.** | *Machine Learning Engineering Intern* Nov 2019 - Jan 2020

- Trained an ensemble model in **PyTorch** to make a *virtual voice assistant* predict when the user has stopped speaking
- Achieved an accuracy of around **85%** on the test data and of over **75%** on real-life chat data

## Scholastic Achievements And Scholarships

- Achieved **All India Rank 1** in JEE (Advanced) out of 150,000 shortlisted candidates 2016
- Awarded **Charpak Research Internship Scholarship** by the Embassy of France in India 2018
- Received **Gold Medal** for being among the national **top 38** at the Indian National Chemistry Olympiad. 2016
- Recipient of the prestigious **KVPY Fellowship** by Dept. of Science and Technology, Govt. of India 2015

## Publications and Research Work

**Boolean Functional Synthesis** [paper] | *Bachelor's Thesis* LICS 2021

- Proposed a novel *normal form* for knowledge representation, *SAUNF*, that **precisely characterizes** tractable functional synthesis and is exponentially more succinct than well-established normal forms used in many AI problems

**Garbage Collection Using a Finite Liveness Domain** [paper] ACM SIGPLAN ISMM 2020

- Optimized the liveness analysis by an exponential factor by exploiting the recurring liveness patterns

**EYE: Program Visualizer for CS2** [paper] | *Hobby Research Project* ACM SIGCSE SRC 2021

- Implemented a program visualization tool, *Eye*, for mitigating the major challenges faced by novice programmers

**Extending Foundations of Differential Privacy** [paper] AISTATS 2022

- Proposed two new concepts, **Robust Privacy** and **Flexible Accuracy** along with their composition theorems, for extending the notion of differential privacy to accommodate highly sensitive functions like *maximum*

**DeepSec Protocol Attack Simulator** | *INRIA Nancy, France* Research Intern

- Designed a simulator for interactively displaying attacks on protocols which violate the **behavioural equivalence**

## Key Projects

- Multi-PAXOS Protocol** | *Distributed Systems*
- Autonomous Teaching Assistant** | *Symbolic NLP*
- Distributed Spanning Tree** | *Computer Networks*
- D-RAM Addressing Attack** | *Computer Architecture*
- Secure Online Exam Portal** | *Databases*
- Chess AI Classic** | *Artificial Intelligence*
- Parallelized FFT** | *Parallel Programming*
- Verifiable Professional Social Network** | *Blockchain*
- Learning Latent Sound Representation** | *GANs*
- IMDB Sentiment Analysis** | *Neural NLP*

## Technical Skills

C/C++, Python, Scala, Java, Go, PyTorch, Git, ReactJS