

# Partha Dhar

Senior Undergraduate  
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Satpura House  
Indian Institute of Technology Delhi  
Hauz Khas, New Delhi

## EDUCATION

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### Indian Institute of Technology Delhi

Computer Science and Engineering, Minor in Economics

July 2017 – Present

GPA: 9.7/10

### Delhi Public School Noida

Class XII

Class X

April 2003 - March 2017

96.2%

GPA: 10/10

## EXPERIENCE

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### Rubrik, Inc.

Software Engineering Intern — Team Galactus

Remote

April 2020 - July 2020

- Created a unified interface for sharing Azure access tokens to allow multiple jobs using the same resource to run in parallel
- Handled deadlocks and race conditions at the database to allow simultaneous requests for the same token while being scalable
- Ensured security by adding encryption using Google Cloud KMS and additional checks across multiple layers to prevent leakage
- Deployed to production for all Polaris customers, resolving 1000+ failures seen each month; Received an FTE return offer

### McGill University

Research Intern — Institute of Health & Social Policy (Prof. Chris Barrington-Leigh)

Montreal, Canada

May 2019 - July 2019

- Developed an open-source Python package for interfacing with Stata, keeping data and results as Pandas DataFrames
- Added support for various statistical models such as ordinary least squares, logistic regression and local polynomial smoothing
- Received funding of CAD 7,000 as a part of selection in the *Mitacs Globalink Research Internship* program

## PROJECTS

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### PageRank using MapReduce

Course Project — Parallel and Distributed Computing

Prof. Rijurekha Sen

March 2020 - May 2020

- Implemented the PageRank algorithm using three different variations of MapReduce to compare performance on benchmarks
- Achieved 3x speedup over existing standard libraries using our custom MapReduce implementation built with C++ MPI

### Secure Chat Application

Course Project — Computer Networks

Prof. Aaditeshwar Seth

August 2019 - September 2019

- Designed multi-threaded server and client implementations for communication using an HTTP-like protocol over TCP sockets
- Ensured end-to-end security using RSA public-private key encryption and message integrity via digital signatures in Java

### Functional Language Interpreter in OCaml

Course Project — Programming Languages

Prof. Sanjiva Prasad

January 2019 - May 2019

- Implemented type-checking, scanning, parsing, CBV and CBN semantics for boolean and big-integer expressions
- Added support for definitions and recursion using SECD and Krivine machines and built a front-end using OCaml-lex and yacc

### Humsafar — Chatbot for transport solutions

Jio Coding Hackathon — 2<sup>nd</sup> Runner Up

Inter IIT Tech Meet

December 2018

- Built using the Microsoft Bot Framework SDK in Node, for hailing Ubers and travel enquiries on cheap feature phones
- Scraped railway data using Python for live status and booking confirmations due to a lack free official/unofficial APIs

## ACHIEVEMENTS

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- IOITC 2017:** Among the 27 students invited to the training & selection camp for the 29<sup>th</sup> IOI (Team India)
- IIT Delhi Merit Award:** In the top 7% in academic performance among 850+ students in semesters I, II, IV and V
- NTSE Scholar:** Among the top 750 (out of 800,000+ students) in the National Talent Search Examination 2015
- KVPY Fellow:** All India Rank 168 (out of 100,000+ students) in KVPY(SA) 2015 conducted by Government of India
- B-83 Merit Award:** Among 13 students awarded the scholarship for a stellar academic record, funded by the batch of 1983
- DISA 2018:** Received the *Design Innovation Summer Award* for the project *Automation of Thermoforming Machine*

## TECHNICAL SKILLS

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Python, C++, Go, OCaml, Java, MATLAB, VHDL, ARM Assembly, PostgreSQL, HTML, CSS, JavaScript, Git, MapReduce

## RELEVANT COURSEWORK

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Data Structures & Algorithms \*, Operating Systems \*, Design Practices \*, Programming Languages, Computer Architecture, Artificial Intelligence, Computer Networks, Algorithm Design, Machine Learning, Parallel & Distributed Computing, Database Systems, Algorithmic Game Theory, Compiler Design  
(\* = also as **Teaching Assistant**)