

Bhumika Mittal

bhumikamittal.in | bhumika.mittal_ug24@ashoka.edu.in | Github | LinkedIn

EDUCATION

ASHOKA UNIVERSITY

BACHELOR OF SCIENCE, COMPUTER SCIENCE
MINOR IN MATHEMATICS, ENTREPRENEURIAL LEADERSHIP
August 2021 - Present | Sonipat, India
CGPA - 3.85/4.00

MAHESHWARI GIRLS PUBLIC SCHOOL

HIGH SCHOOL DIPLOMA
February 2008 - July 2020 | Jaipur, India
AISSCE (Science Stream): 95.4%

RESEARCH EXPERIENCE

IIT GANDHINAGAR | RESEARCH INTERN

May 2023 - Present | Remote

- Exploring frameworks for designing and evaluating DNN accelerators
- Simulating various architectures using simulators like Timeloop
- Area of work - **Computer Architecture, Systems for ML, Deep Neural Networks**

LEHIGH UNIVERSITY | RESEARCH ASSISTANT

May 2022 - Jun 2022 | Bethlehem, US

- Consulted Global Good Funds, a venture capital firm
- Established clear and identifiable metrics to evaluate ESG impact
- Measured the non-monetary impact for ESG goals of the ventures
- Strategized the optimal investment approaches for the Global Good Fund

ASHOKA UNIVERSITY | 3 × TEACHING ASSISTANT

Fall 2022, Spring 2023 | Sonipat, India

- TA for Introduction to Computer Programming, Discrete Mathematics, Strategy through Board Games
- Conducted weekly discussion sections and office hours for **60+ students**
- Responsible for designing and evaluating assignments
- Student Feedback: **4.88/5**

PROGRAM IN MATHEMATICS FOR YOUNG SCIENTISTS | MEHTA FELLOW

Summer 2020, 21 | Remote

- Research project on de Bruijn Sequences proposed
- Completed Number Theory and Advanced Graph Theory course involving daily lectures and problem sets
- Exploratory Project on Fibonacci sequences

PUBLICATION

ON THE EXISTENCE OF BALANCED GENERALIZED DE BRUIJN SEQUENCES | DISCRETE MATHEMATICS JOURNAL

- **Abstract:** A balanced generalized de Bruijn sequence with parameters (n, l, k) is a cyclic sequence of n bits such that (a) the number of 0's equals the number of 1's, and (b) each substring of length l occurs at most k times. We determine necessary and sufficient conditions on n, l , and k for the existence of such a sequence.

SKILLS

PROGRAMMING

Over 5000 lines:

Java • Python3 • C/C++

Over 1000 lines:

Assembly • MySQL • Shell • HTML/CSS

Familiar:

SML • XML • R

TOOLS

• Timeloop • Accelergy • Docker • Git •
MATLAB • \LaTeX

OTHERS

• Arduino • ESP32 • Raspberry Pi Pico •
Linux • PowerBi • WordPress • MS Excel

HONORS AND AWARDS

2022 Undergraduate Research Excellence Award

2021-23 Dean's List

2022 AWS AI & ML Scholarship

2022 EUREKA! Stage 2 Winner

2019 Most Powerful and Serene (Best Student) Award

2019 National Ideationology Challenge Winner

2019 Best in IT Award

2018 National Cyber Olympiad School Topper

2017 District Level Shot Put Competition Runner Up

COURSEWORK

Computer Organisation and Systems

Operating Systems

Machine Learning

Software Debugging

Data Structures

Algorithm Design and Analysis

Linear Algebra

Discrete Mathematics

Calculus

Security Engineering

Probability and Statistics

Symbolic Logic

Artificial Intelligence and Data Analytics

ACTIVITIES

CS Representative

Computer Science Society

Entrepreneurship Club

Teaching Staff, Plaksha University

Product Manager, Brand warikoo