

# Bhumika Mittal

bhumikamittal.in | bhumika.mittal\_ug24@ashoka.edu.in | Github | LinkedIn

## EDUCATION

### ASHOKA UNIVERSITY

BACHELOR OF SCIENCE, COMPUTER SCIENCE

August 2021 - Present | Sonipat, India

CGPA - 3.86/4.00

### MAHESHWARI GIRLS PUBLIC SCHOOL

HIGH SCHOOL DIPLOMA

February 2008 - July 2020 | Jaipur, India

AISSCE (Science Stream): 95.4% | IELTS Academic: 8.0

## EXPERIENCE

### ASHOKA UNIVERSITY | 2 × TEACHING ASSISTANT

August 2022 - Present | Sonipat, India

- TA for Introduction to Computer Programming, Discrete Mathematics
- Conduct weekly discussion sections and office hours for **60+ students**
- Responsible for designing and evaluating assignments
- Student Feedback: **4.58/5**

### LEHIGH UNIVERSITY | INNOVATOR

May 2022 - Jun 2022 | Bethlehem, US

- Nominated (1/120) to attend Hatchery Programme 2022 on a full scholarship
- 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

### BRAND WARIKOO | TECH AND PRODUCT INTERN

Feb 2021 - April 2022 | Remote

- Ideated and built *WebVeda* for entrepreneurial courses, hosting **300k learners**
- Generated revenue of **\$1Mn** within 10 months
- Integrated zapier, payment gateway, and email automation

### PROGRAM IN MATHEMATICS FOR YOUNG SCIENTISTS | MEHTA FELLOW

July 2020 - August 2021 | Remote

- 2021: Research on De-Bruijn Sequences, course on Number Theory, attended various Guests Lectures and Mini-courses
- 2020: Exploration research on the Fibonacci Numbers, course on the Graph Theory, completed Problem Sets

## RESEARCH EXPERIENCE

### ON THE EXISTENCE OF BALANCED GENERALIZED DE BRUIJN SEQUENCES | ACCEPTED

Jan 2022

- **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:

Python • Java • C •  $\text{\LaTeX}$

Over 1000 lines:

Assembly • MySQL • Shell • HTML/CSS

Familiar:

SML • Scratch • R

### BUILD TOOLS

Github • Arduino • Raspberry Pi Pico

### OTHER TOOLS

Power BI • no-code tools • MS Excel

## HONORS AND AWARDS

**2022** Undergraduate Research Excellence Award

**2021-23** Dean's List

**2021** StartUp Ashoka Finalist

**2019** Most Powerful and Serene Award

**2019** National Ideationology Challenge Winner

**2019** Budding Leader of the School Award

**2019** Best in IT Award

**2018** National Cyber Olympiad School Topper

**2017** District Level Shot Put Competition Runner Up

## COURSEWORK

Software Debugging

Computer Organisation and Systems

Operating Systems

Machine Learning

Data Structures

Algorithm Design and Analysis

Linear Algebra

Discrete Mathematics

Calculus

Security Engineering

Probability and Statistics

Symbolic Logic

Artificial Intelligence and Data Analytics

## ACTIVITIES

Computer Science Society

Entrepreneurship Club

Ashoka Summer Ambassador

Young Scholar's Program Office

Counsellor