# Subodh Kumar Kasaudhan

Third Year Undergraduate Indian Institute of Technology Kanpur **I** ksubodh20@iitk.ac.in | **\C** +91-9919538428 **In** shivamiitk | **\O** shivamiitk | **Z** homepage

## ACADEMIC QUALIFICATIONS

| Year      | Degree/Certificate                      | Institute                             | CPI/%     |
|-----------|---|---------------------------------------|-----------|
| 2020-2024 | B.Tech(Materials Science & Engineering) | Indian Institute of Technology Kanpur | 6.9/10.00 |
| 2019      | ICSE(XII)                               | St. Basil's School, Basti             | 78.6%     |
| 2017      | ICSE (X)                                | St. Basil's School, Basti             | 87.0%     |

#### **ACHIEVEMENTS**

- Selected as one of the top 10 contributors of Competitive Programming domain in GirlScript Winter of Contributing
- Secured global rank 96 among 16221 participants in February Long 2022 I contest on CodeChef
- Completed an Engineering Virtual Program offered by Goldman Sachs on Forage that aimed to crack leaked password database
- Won 4 trophies and 14 badges in Microsoft Azure Data Fundamentals as a part of CLOUD SKILLS CHALLENGE
- Secured All India Rank 6208 in Joint Entrance Examination Advanced 2020 among the 2.5 Lakh shortlisted candidates

#### WORK EXPERIENCE

Swarm Robotics Internship | Intelligent Guidance and Control Lab

(Jun'22-Aug'22)

Mentor: Prof. Mangal Kothari, Department of Aerospace Engineering IIT Kanpur

| Objective | • Implementing a Ground Control Station for operating multi drone systems as a part of swarm application               |  |
|-----------|--|--|
|           | • Intensive review of ROS wiki document to understand and set-up ROS using Windows Subsystem for Linux(WSL2)           |  |
| Strategy  | • Successfully launched the Gazebo, RViz and Turtlesim Simulators in Ubuntu 18.04.5 on Windows                         |  |
|           | • Review of thesis on Development of Ground Control Station for Swarm Applications to understand working of GCS        |  |
| Impact    | • Creating User Interface of GCS for Swarm Applications providing functions like TakeOff, Landing, and Mission Planner |  |

## Flutter App Developer Internship | Ekai Shop Technologies

(Jan'22-Mar'22)

- Developed a flutter-based cross-platform application for managing user onboarding and maintaining brand profiles
- Utilized various widget options, including buttons, app bar, cards, and bottom navigation bar from the materials design theme

#### Open Source Contributor | GirlScript Foundation

**?** | (Sep'21-Dec'21)

- Contributed to GirlScript Winter of Contributing aims to create world's largest multilingual content repository
- Developed documentation consisting of tutorials and code relevant to the domain of C, C++ and Competitive programming

#### KEY PROJECTS

## MiniURL-Generator | Self Project

 $\mathbf{O} \mid (Jun'22\text{-}Jul'22)$ 

| Objective | • Generated an extremely short and long-lived custom URL that redirects the user to the original long URL              |  |
|-----------|--|--|
|           | • Redirected URL should be fast, and the service should expose REST APIs to integrate it with third-party applications |  |
| Strategy  | • Generated short URLs using random numbers, base conversion, and MD5 hashing techniques                               |  |
|           | • Used Maps and Key Generation Service to generate unique, collision-free, random seven-letter strings                 |  |
| Impact    | • Documented code that converts long URLs to mini URLs making it easy to type and sharable without word limits         |  |

## ${\bf App\ Development\ for\ Crystallography\ and\ Material\ Science\ related\ phenomena\ |\ {\rm UGP}\ }$

**O** | (Aug'22-Ongoing)

Mentor: Prof. Shikhar Krishn Jha, Department of Materials Science and Engineering IIT Kanpur

- Developing application for visualization of crystallographic planes and lattices that materials science students will use worldwide

## Introduction to Deep Learning and its Applications | STAMATICS, IIT Kanpur

**O** | (Mar'22-Jul'22)

- Utilized data mining techniques for analysis, visualization, preprocessing and executed linear algebra problems using python libraries
- Worked on Recurrent Neural Network (RNN) involving LSTM using Tensorflow to predict results from the MNIST data set
- $\bullet \ \ \text{Implemented CNN-based } \textbf{Deep Learning} \ \ \text{Model on } \textbf{CIFAR-10} \ \ \text{dataset for classification task and achieved } \textbf{96.87\%} \ \ \text{accuracy} \\$

# $\textbf{Deep Dive Into Algorithms} \mid \text{Association for Computing Activities, IIT Kanpur}$

 $\mathbf{O} \mid (Apr'21-Jun'21)$ 

- Deep-dived into basic to advanced **DSA concepts** such as STL, number theory, binary search, and various algorithms using C++
- Extensively implemented various algorithms in C++ and actively participated in Codeforces contests offered by mentors

## TECHNICAL SKILLS

RELEVANT COURSES

| Programming Languages            | Operating Systems & Softwares    | Tools & Libraries                      |
|----------------------------------|----------------------------------|--|
| C, C++, Python, Java, HTML, CSS, | Windows, Ubuntu, Micro-Cap, ROS, | Android Studio, Canva, Git, Mailchimp, |
| JavaScript, LATEX                | AutoCAD, ImageJ                  | NumPy, Pandas, MatPlotLib, TensorFlow  |

# Fundamentals of Computing Probability and Statistics Linear Algebra and Ordinary Differential Equation Partial Differential equations Communication Skills: Composition Quantum Physics Introduction to Electronics Foundations: Data, Data, Everywhere by Google\* Python by University of Michigan\*

## POSITIONS OF RESPONSIBILITY

## Manager Alumni Relations | Outreach Cell, IIT Kanpur

(Jun'22-Present)

\* Online Courses

| Leadership  | • Leading a team of 20 Secretaries to work on various events aimed to strengthen Student-Alumni relations                   |  |  |
|-------------|---|--|--|
|             | <ul> <li>Managed the Mock-en-Joy series involving mock internship interviews of 200+ students by 60+ IITK alumni</li> </ul> |  |  |
| Management  | • Interviewed 10+ Distinguished Alumni and made publishable content for Distinguished Alumni Interview series               |  |  |
|             | • Organized talks and networking programs to provide career guidance and mentorship to students                             |  |  |
|             | • Conceptualized and executed campaigns such as #ThatsIITK and #AskIITK for prospective students of IITK                    |  |  |
| Initiatives | • Proposed events including <b>Department-wise Faculty Panel</b> Discussions for increasing student-faculty                 |  |  |
|             | interaction and Alum-side Chat for enhancing student-alumni relations for the entire campus community                       |  |  |

## President's Nominee | Animal Welfare Cell, IIT Kanpur

(Jun'22-Present)

- Representing the Gymkhana President in a committee that works toward **policy making** and welfare for the Animals on campus
   Working on initiatives such as starilization drives for strong down and conducting talks by expects in the enimal welfare follows.
- Working on initiatives such as sterilization drive for stray dogs on campus and conducting talks by experts in the animal welfare field