

# SARANSH CHOPRA

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## EDUCATION

### Cluster Innovation Centre, University of Delhi

New Delhi, India

B.Tech. Information Technology and Mathematical Innovations | Computational Biology | CGPA: - 9.31 2020 – 2024

## EXPERIENCE

### AiView

New Delhi, India

Research and Development intern

September 2021 – present

- Developed an end-to-end OCR pipeline to pre-process, read, and post-process different texts (signboards, books, invoices etc.) for visually impaired people by creating a new python package/library with a CI/CD pipeline.
- Collected a dataset of human images and their distance from the camera by building a stereovision camera, and by automating the whole process using python.

### Google Summer of Code

Remote

Open-Source Developer at PyBaMM, NumFOCUS

May 2021 – August 2021

- Built an automated Twitter Bot capable of tweeting random Battery Degradation Simulations and replying to requested simulations with the appropriate GIFs, from scratch.
- Developed a CI/CD pipeline using GitHub Actions and Heroku, and followed a micro-services based architecture to keep two major functionalities separate.

### MoneySeeds

Remote

2D Animator

August 2020 – September 2020

- Developed animated content using a Python based, Open-Source Mathematical Engine library called Manim.
- Used MikTeX for writing  $\text{\LaTeX}$  in the videos and FFmpeg for video processing .

## PROJECTS

### PopItUp [Android, Kotlin, Firebase, Firestore, Google Sceneform SDK, Google ARCore SDK]

May – August 2021

- An Augmented Reality game developed in native android with Firebase and Firestore as the backend and database.
- Externally injected Sceneform SDK into the app and used FirestoreRecyclerView to load live data into the leaderboard.

### MemeTastic [Flutter, NodeJS, Elasticsearch, Kibana, CI/CD, Google Cloud, Reddit API]

May 2021

- A full stack Flutter application with a backend in NodeJS that runs every 30 minutes on a CI/CD pipeline developed using GitHub Actions to ingest latest meme data into Google Cloud hosted Elasticsearch.
- The Flutter frontend then pulls this data providing a feature to search any meme using the ngram analyser.

### ChaoticEncryption [Python, ODEs, Encryption-Decryption, Pseudo-Random Number Generator, Matplotlib] March 2021

- An Encryption-Decryption script that uses Logistic map and Lorenz System of Differential Equations as PRNGs.
- Along with encrypting images, it also aims to connect chaos, encryption and fractals together.

## RELEVANT SKILLS

<b>Languages:</b>	Python   C/C++   Javascript   Java   Dart   Kotlin
<b>Frameworks:</b>	Flutter   ReactJS   ExpressJS   NodeJS   React-Native   Tensorflow   Tesseract
<b>Platforms:</b>	Linux   Web   Windows   Heroku   Google Cloud
<b>Tools:</b>	Git   Elasticsearch   Kibana   Firestore   MongoDB   Firebase   Docker   CI/CD

## OPEN SOURCE EXPERIENCE

<b>pybamm-team/PyBaMM:</b>	Core contributor Fast and flexible physics-based electrochemical DAE battery models in Python.
<b>pybamm-team/BattBot:</b>	Core contributor   Maintainer A Twitter bot that tweets and replies with random/requested battery simulations.
<b>Others:</b>	Implemented the conversion between HCL and RGB colourspaces in colour-science.

## AWARDS AND ACHIEVEMENTS

<b>Hackathons:</b>	Winner of the Elastic X Code for Cause hackathon (out of 2500+ registrations).
<b>Asteroid Discovery:</b>	Discovered an asteroid having a fixed orbit around Sun by analysing the data of Pan-STARRS
<b>Talks:</b>	<b>The Faraday Institue, UK</b> - Presented the Google Summer of Code project in front of researchers (master's/doc/postdoc) from around the world. <b>IIT Madras</b> - Organised and delivered talks on Python in research and, Git and GitHub.