

# Sachin Kumar Singh

<https://sachinkumarsingh092.github.io>

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## EXPERIENCE

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- **Google Summer of Code'20**

*Student Developer at GNU-Astro*

The GNU project

*May 2020 – August 2020*

<https://summerofcode.withgoogle.com/projects/#4950581673721856>

- Implemented a library and a CLI interface to inter-convert different distortion types present in different astronomical datasets providing uniformity when different software are used in an analysis pipeline.
- Implemented a RAM efficient index-based k-d tree for easy preprocessing of large astronomical datasets before matching.
- Implemented a multi-threaded matching algorithm to match objects (stars and galaxies) in a query dataset to a reference dataset.

- **India Linux User Group**

*Open Source contributor*

Delhi NCR

<https://github.com/ILUGD>

- Made contributions to their messaging bot providing more functionality and improving code quality.

## PROJECTS

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- **Book Reviewer** (<https://github.com/sachinkumarsingh092/book-reviewer>)

- Book reviewing web application allowing users to register themselves and rate and review books from a large catalogue of books.
- Built using Flask, jinja2 templating, Bootstrap CSS, PostgreSQL, goodreads developer-API and hosted on Heroku.

- **Otaku-chat** (<https://github.com/sachinkumarsingh092/Otaku-chat>)

- A realtime chatting web application with multiple chat room functionality.
- Features include creating and joining multiple channels, saved sessions after closing the browser and deleting sent messages.
- Built using Flask, Javascript, FlaskSocketIO, jinja2 templating, Bootstrap CSS, PostgreSQL and hosted on Heroku.

- **Bitmap Filters** (<https://github.com/sachinkumarsingh092/bitmap-filter>)

- A fast and efficient bitmap filter to convert uncompressed bitmap images.
- Current conversion filters include grayscale, blurring, reflecting and detecting the edges of the image.
- Built using C and GNU Make.

## ACHIEVEMENTS

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- **Paytm Build for India Hackathon**

Won 1<sup>st</sup> runner-up prize for building a website to be used by an educational organisation, where the same website can be used by students, teachers and administrators to organise their individual programs.

- **NIT-H CTF**

Won 2<sup>nd</sup> runner-up prize in Capture The Flag (CTF) conducted by cybersecurity club of NIT-Hamirpur.

## PROGRAMMING SKILLS

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- **Languages:** C/C++, Python, Javascript, SQL, Shell scripting, Java, HTML, CSS,  $\text{\LaTeX}$
- **Technologies:** GNU/Linux, Git, Heroku
- **Frameworks:** Flask

## EDUCATION

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- **University School of Information, Communication and Technology**

*Bachelor of Technology(Information Technology); CGPA: 7.6*

GGSIU, New Delhi

*Aug. 2018 – July. 2022(Expected)*

- **Pratap Public School**

*Higher Secondary; 93% in high school.*

Karnal, Haryana