

# SHIVAM PRASAD

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## EDUCATION

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### Indian Institute of Technology, Ropar

July 2017 - Present

B.Tech in Computer Science & Engineering , Current CGPA : 8.43/10

### CISCE

ISC(Class 12): 95.5%

ICSE(Class 10): 96.8%

## TECHNICAL STRENGTHS

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### Computer Languages

C/C++, Java, Python

### Tools/OS/Architectures

RISC-V, Android Studio, Git, Linux, OpenCV

## PROJECTS

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### Heart rate detection using camera on Android phone

Android Studio, Java, OpenCV, Matlab

- Ported Dr. Antony Lam's and Dr.Yoshinori Kuno's MATLAB code for *Robust Heart Rate Measurement from Video Using Select Random Patches* to Android.
- Used OpenCV Android SDK for face detection and Apache Commons Math for matrix operations.
- Wrote Java code for image processing similar to Matlab from scratch.
- Project was supervised by Dr. Abhinav Dhall.

### Faculty Portal

Python, Postgresql, MongoDB

- Built Flask application for faculty profile and leave management.
- Designed relational model for dynamic leave application management in PostgreSQL.
- Used MongoDB for backend of faculty profile system.

### Image Saliency Prediction

Python, Pytorch

- Implemented MLNet model in Pytorch for image saliency prediction.
- Ran some experiments on the model to optimise speed and accuracy.
- The model can be used to determine salient regions in video frames at almost real time.

### Windows Presentation Form Application in C#

.NET Framework, Google Drive API

- Developed a Windows PC application for use in Design Lab, Mechanical Departement IIT Ropar.
- The application provides a user interface for a materials related dataset of images, videos and text files.
- Used Google Drive API's .NET wrapper for interacting with the data stored in Google Drive.

### Other Projects

Java, Verilog, C++

- RISC-V simulator to convert assembly code to machine code and execute on a pipelined simulator.
- Amazon like database with multiple levels of subcategories in Java.
- Implemented K-means algorithm for spam detection in C.

## RELEVANT COURSES

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### Computer Science

Introduction to C Programming, Discrete Mathematics,Digital Logic Design, Data Structures, Computer Architecture, Algorithms, Operating Systems, Computer Vision, Database Systems

### Others

Calculus, Linear Algebra, Differential Equations, Probability and Statistics  
Signals & Systems

## MISCELLANEOUS

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### Competitive Programming

Currently an active participant on Codechef and Codeforces.  
Secured rank 79 at ACM ICPC Kanpur Regionals.

### Coding Club Coordinator

Conduct regular coding sessions and contests for juniors.

### Quizzing Club Representative

Organise club sessions and participate in Intra College events.

### JEE Rank

Secured rank 1882 (Out of 1.5 million candidates) in JEE Advance, 2017.

### Volunteer Work

Worked as a part of event management team in college fests.  
Teaching poor kids of Ropar as part of NSS IIT Ropar.