Yash Khare

Kollam, Kerala
India
☏ +91 6397812260
✉ yashsja@gmail.com
⌂ yashk2000.github.io
in yashk2000
🐦 __p0lar__bear
yashk2000

OBJECTIVE

To gain exposure, enhance my skills and always be ready to learn new things.

EDUCATION

2018-2022 Ongoing	**B.Tech in Computer Science and Engineering**, *Amrita Vishwa Vidyapeetham, Amritapuri.* *CGPA: 9.18/10*
2018	**St.Joseph's Academy, Higher Secondary Education ISC**. *Percentage: 94.25%*
2016	**St.Joseph's Academy, Higher Education ICSE**. *Percentage: 92.2%*

EXPERIENCE

May 2020 - Present — **Google Summer of Code**.
My proposal, "Computer Vision Based PPI Tool Version 2.0", under the Mifos Initiative was accepted for Google Summer of Code 2020. Over the summer I will work on training models to accurately detect and classify objects in household environments and build an Android app to leverage Cloud Vision to use the trained models and automatically fill PPI surveys.

May 2020 - July 2020 — **Intern at Instruments Research and Development Establishment(IRDE)**.
IRDE(a DRDO establishment), was developing a fever screening system. The system uses a normal camera to capture video and an IR Camera to detect temperature. I worked on developing the software and integrating it with the hardware. My work involved detecting faces in the RGB video and scale these inputs to match the scale of the IR camera such that temperature of only the facial regions could be extracted for which I used deep learning. A few parameters also change as the temperature of the IR camera changes when it is in use. I developed machine learning algorithms to automatically adjust the parameters so as to give the correct output. I also developed a GUI in python.

August 2019 - Present — **GitHub Campus Expert**.
As GitHub Campus Expert, I receive training and mentorship from GitHub employees and support to help in the growth the developer community on my campus

November 2019 - December 2019 — **Intern at Defence Research and Development Organization(DRDO)**.
I interned at IRDE, a DRDO establishment. During the internship, my work involved digital image processing, computer vision and automatic target detection using background differencing, frame differencing, and difference fusion. An algorithm was also developed by me for automatic detection of moving ground targets, viz. vehicle, human, etc. in image sequences captured by an infrared (thermal) imaging system. Experimental results demonstrated that the proposed algorithm can detect intruding targets in infrared imaging video with good accuracy

November 2019 - January 2020 — **Google Code-In Mentor**.
Google Code-in is a contest to introduce pre-university students (ages 13-17) to open source software development. I have been invited by the Wikimedia Foundation and FOSSASIA as a mentor for the Google Code-In 2019.

May 2019 - August 2019 — **FOSSASIA Internship**.
I got selected as a FOSSASIA intern in May 2019. I overhauled cloud deployment of 2 applications, resulting in reduced run time performance by 30%. I helped in developing the hardware simulation, Badge Magic Android, of a LED name badge, by passing the 2D array into a filter of animation specific algorithm; this enabled people without the hardware to experience the hardware beforehand. My work was also on the Phimp.me Android application which is photo editing tool using OpenCV. For both of these apps, I automated PlayStore and F-droid deployment process and improved the build time by 5 minutes using Fastlane tool, bash scripting, and continuous integration.

July 2019	**Undergraduate Summer School, Indian Institute of Science**. I was selected for the Undergraduate Summer School, held by the Department of Computer Science and Automation of Indian Institute of Science at Bengaluru. This program is a course for introduction into the fields of research where students are most involved currently. It is mainly meant for final and pre-final year students, but sophomores are also encouraged to apply. I was selected for the program in my sophomore year itself after clearing the application and interview phases being the only sophomore accepted into the program out of the 90 selected students all over India.
July 2018 - Present	**Member and mentor at amFOSS**. amFOSS is the Free and Open Source Software club of my college. I am an active member and also mentor my juniors and get them exposed to new technologies and open source as well.

ACHIEVEMENTS

○ Got invited to FOSSASIA OpenTech Summit 2020, Singapore, to give a talk on **The Optimal Pathway to Deep Learning**

○ Top contributor to Kiwix Android, a Wikimedia offliner, with $100+$ contributions made.

○ My paper on **Infrared Image Enhancement using Convolution Matrices** got selected to be presented in the **International Conference on Optics and Electro-Optics 2019(ICOL 2019)** held at **Instruments Research and Development Establishment**, a premier **DRDO** establishment working in the field of Electro-optics

○ Got selected for **Hack The North 2019**, Canada's biggest Hackathon, held at the University of Waterloo(travel funding provided)

○ Won **2nd prize in IBM-Cloud Category** in FOSSASIA UNESCO Hackathon held in Singapore.

○ FOSSASIA **OpenTech Night winner**: Got invited to **FOSSASIA Open Tech Summit held in Singapore** in March 2019.

○ Finished among the **top 3 participants in Kharagpur Winter of Code(KWoC) 2019** which is an open source contributing competition.

PROJECTS

Tweegenous March 2019	**Tech stack: Python, Jupyter Notebook**. This project is used to collect tweets from twitter in different languages using NLP. It was developed as a part of the FOSSASIA-UNESCO Hackathon, in Singapore, in which my team won the 2nd place in IBM-Cloud Category. The tool was designed for people who speak indigenous languages. It collects tweets related to natural disaster and translates them in the language desired by the user and alerts people instantly if there is a natural calamity or any disaster headed their way by translating tweets. It is a two way system, for both the authorities and people. Link to project: `https://github.com/tweegenous`
Kiwix Android January 2020 - July 2020	**Tech Stack: Kotlin, Java, Android, RxJava, Dagger**. Kiwix is an offline reader for Web content. One of its main purposes is to make Wikipedia available offline. This is done by reading the content of a file in the ZIM format, a highly compressed open format with additional meta-data. I am one of the top contributors to this project. Link to project: `https://github.com/kiwix/kiwix-android`
amFOSS CMS April 2020 - Present	**Tech Stack: Flutter, Dart, GraphQL**. This is a flutter application for the amFOSS CMS, compatible with android and iOS operating systems. Using the application, club members can login into the Club Management System and view club attendance, their profile and status updates(daily emails) for which data is fetched using the CMS APIs which were also made by amFOSS members itself. Features like notifications for club meetings, event, a todo for members to kep track of ,etc are also present. Link to project: `https://gitlab.com/amfoss/cms-mobile`

Computer
Vision
November
2019 -
Present
	Tech Stack: Python, C++, OpenCV.
	I have worked on several projects involving use of digital image processing and computer vision. Some of these projects include a smile detector, emotion detector, image stitcher which stitches similar images together to produce a panorama, shape detector, OMR sheet reader etc. I have also worked on implementing a research paper titled ViBe: A universal background subtraction algorithm for video sequences Links to projects:
	`https://github.com/yashk2000/Image-Processing`
	`https://github.com/yashk2000/computadoras-pueden-ver`
	`https://github.com/yashk2000/computervision`

Phimpme November 2018 - January 2020	**Tech stack: Java, XML, Android, OpenCV**. Phimpme is an open source photo editing application designed for android phones. I am one of the top contributors in this project and have fixed several bugs and made several new features. I am also one of the maintainers of this project. Link to project: `https://github.com/fossasia/phimpme-android`

Badge-Magic January 2019 - January 2020	**Tech Stack: Kotlin, XML, Android**. Badge-Magic is an android application which is used to control LED Badges. I have been a core contributor to the project and have helped build this project from scratch. I also help maintain this project. Link to project: `https://github.com/fossasia/badge-magic-android`
Asha-SOS July 2019	**Tech Stack: JavaScript, HTML, CSS, Bootstrap**. This is a project for disaster management in case of floods when due to loss of internet connection, people are not able to send for help. Our project helps in providing a network in case of floods. A device called a Node-MCU is used to provide an wifi network. Link to project: `https://github.com/kochi-hackathon/AshaSOS`
Temple App June 2019 - June 2020	**Tech stack: Java, XML, Android, Firebase**. An Android app which handles the information about a temple. People can register and keep a track of all poojas, donations made to the temple. I am one of the core developers and maintainers of this project. Link to project: `https://github.com/amfoss/TempleApp`

Volunteering

- **Amrita inCTF:** Amrita inCTF is India's biggest Capture the Flag contest held by team bi0s, India's top cyber security team, at my college. I was responsible for event management and organization for the event.
- **MLH Local Hack Day:** This is a series of 3 events spanning across one academic year of college. I have successfully organized Learn and Build events which were very well received.
- **Hacktoberfest Meetup Amritapuri:** This was a 2 day workshop to introduce beginners to Open Source via means of Hacktoberfest(a program by Digital Ocean). I helped organize this event on 9-10 October, 2019 and took sessions for the attendees to get them started with Open Source Contributions.
- **Programming Essentials Workshop:** This is a 6 week long workshop(starting in August) to introduce freshers to basics of programming in languages such as C and Python. Juniors are also exposed to the world of Open Source Software and are taught about Git and GitHub. I helped in taking sessions and mentoring over 60 students as a part of this workshop.
- **CIR Road to Excellence:** This workshop is help by the placement cell of my college, CIR. There were several tracks in this workshop, out of which I was responsible for organizing and taking sessions in the Android Development Track. I took a workshop for a batch of 60-70 students on developing Android apps using Java and Kotlin.

LANGUAGES

English	Full Professional Proficiency
Hindi	Native Tongue, Full Professional Proficiency

COMPUTER SKILLS

OS	Linux(Debian and Fedora), Windows
Languages	Python, Java, Kotlin, XML, C, C++, Bash
VCS	Git, Mercurial
Other Skills	Android Development, Machine Learning, Computer Vision, OpenCV, Problem Solving

INTERESTS

Technical	Computer Vision, Deep Learning
Hobbies	Reading, Travelling, Singing, Guitarist, Contributing to Open Source

PERSONAL DETAILS

DOB	12 November, 2000
Residence	Kollam, Kerala, India
Status	Student