# SAMYAK S SARNAYAK

## **Undergraduate Student**

- @ samyak201@gmail.comਡ samyak-s-sarnayak
- Bengaluru, India

  Qwiklabs

  Coursera
- samyaks.xyz
- in samyaks
- Samyak2



# **EXPERIENCE**

## **Summer Intern**

## Akamai Technologies (

- **May. 2021 July 2021**
- Bengaluru, India
- Architected and set up a platform to query over existing data lakes (with multiple Petabytes of data) using open source technologies.
- Benchmarked Trino to find optimal configuration and query structure.

#### Intern

#### RuleZero (

- **i** Jul. 2020 May 2021
- Bengaluru, India
- Built a smart search tool to extract data from a legal database consisting of investors, cap table and related information.
- Wrote an efficient API query system and general filter functions for nested JSON data.

#### Tech Core

#### PES Open Source **(\*)**

- Sep. 2019 Present
- Bengaluru, India
- Helped organise Hacktoberfest 2019 events at PESU.
- Conducted meet-ups and tutorials.
- Started the browser-history project.

#### Intern

#### Deeplogick #

- **Dec. 2019 May 2020**
- Trained and deployed object detection models based on SSD MobileNet V2.
- Optimised models to run on GPUs and Jetson Nano using TensorRT.
- Built a model trainer API through a scheduler.

# **ACHIEVEMENTS**



### 1st place at ISFCR CTF 1

Capture-The-Flag hackathon conducted at PESU



## 1st place at ISFCR CTF 2

Second edition of the above CTF



1st place at HaXplore 2.0, IIT-BHU, Varanasi National Level Hackathon

# **PROJECTS**

## browser-history 😱

- PES Open Source
- Open Source Python Package for retrieving any browser's history
- Over 80 pull requests, 7500 downloads on PyPI.
- Presented the project at PyCon India 2020 DevSprints.

# heiko 😱

 A fault-tolerant lightweight scheduler to manage servers running on lightweight devices such as phones and Raspberry Pis.

# par-a-graph 😱

Parallelized Pagerank algorithm to achieve upto 4.2x, using goroutines

# gopy 😱

A compiler for a subset of Go written in Python

## skip-list 😱

C++ implementation of skip list, achieves sub-microsecond logarithmic time operations

**i** Jul. 2020

# fourier-dnn 😱

Tensorflow 2.0 implementation of Fourier feature mapping networks

**J**ul. 2020

## Anomaly Detection using Self-Organising Maps

- **May Jul. 2020**
- CCBD, PES University
- Applied the model on data such as Cricket, Tennis and YouTube videos.

## Abstractive Summarisation using Reformer

- **ä** Jan. Jun. 2020
- PES University
- Built a decoder-only language model for Summarisation of 24k tokens (approx. 5k words) on single GPU.



## **EDUCATION**

3rd semester CSE

# B.Tech. in Computer Science and Engineering **PES University**

**2018 - 2022** 

Bengaluru, India

Currently in Sixth Semester. CGPA: 9.61.

# Pre-University College - Class 11, 12 Sri Kumaran Children's Home PU College

**2016 - 2018** 

Bengaluru, India

Board: Department of Pre-University Education. Percentage in 2nd year PUC: 95.16%.

## Class 9 and 10

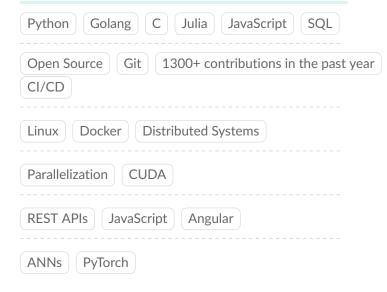
#### **VLS International School**

**2014 - 2016** 

Bengaluru, India

Board: Council for the Indian School Certificate Examinations (CISCE). Percentage in Class 10: 92.66%.

# SKILLS



 Applied Gap Sentence Generation for self-supervised pre-training.

## Bengaluru's Greenest Areas 😯



**May 2020** 

- PES University
- 5,38,000 satellite images. Found the percent of green using OpenCV.
- Custom multi-threaded map-reduce in python processes 440,000 entries within 2s.

# SVDNN.jl 😱

Used Singular Value Decomposition to decrease training time of neural networks by 1.2x to 2.7x

# NeuralNetwork.jl 😱

Custom Neural Network with support for GPU (upto 3x speed up)

# CapStyle (7)

Stylized Image Captioning using Deep Learning Models

- **J**un. 2019 Jun. 2020
- CDSAML, PES University
- Custom dataset named CapStyle5k derived from Flickr8k. Seg2seg attention models. Achieved 0.6 BLEU.

## Miscellaneous

- Recipe Viewer 🗘: A web app to aid in cooking. DSC PESU.
- Sentiment Analysis of Tweets **(7)**: C program to get random tweets and perform basic sentiment analysis.
- Time Series Analysis of Amazon.in data 😯 : A data science project about collecting and analysing Amazon data.
- Intru Sense: Canary Tokens Based Mechanism To Notify Against Intruders.
- BlockChat : A blockchain based messaging application
- LightSabre : An Ethereum Dapp for luggage tracking using Blockchain.
- Seed Tracking system: Built on the Hyperledger Fabric blockchain. Submission for 3rd place at Gov-TechThon 2020 by IEEE.
- Park-O-Report : HackBout 2020 submission. React native mobile app, TF lite object detection. APIs in Flask for Number plate recognition and Geospatial indexing.

# **LANGUAGES**

**English** Konkani Hindi Kannada

