

Aditya Kumar

+91 9650093751 | [E-Mail](#) | [LinkedIn](#) | [Website](#) | [Github](#)

EDUCATION

Indian Institute of Technology, Delhi

Bachelor of Technology in Production and Industrial Engineering, Minor in Entrepreneurship

7/10 GPA

2019 - Present

PMS Public School

Class XII

90%

2018 - 2019

EXPERIENCE

Performance Modeling of Integrated Architectures | *Prof. Bernhard Egger (SNU, South Korea)*

May 2021

- Acquired the understanding of OpenCL Data parallel and Execution model, integrated CPU-GPU architectures, and their memory architecture.
- Generated Assembly of Kernel by dumping & disassembling OpenCL kernel to retrieve ISA binary for Integrated GPU.
- Profiled performance of Intel integrated CPU-GPU architecture using hand-made OpenCL microkernels and documented Register Allocation for Intel Processor Graphics.
- Utilized heterogeneous platforms for computation using OpenCL (Open Computing Language) which serves this purpose by enabling portable execution on heterogeneous architectures.

COASTER PROJECT | *Prof. Ronan Llyons, Economics dept. | Trinity College Dublin*

March-May 2021

- Derived estimates of trade between Britain and Ireland during their economic union.
- Evaluated the value of the Macroeconomic relationship between Britain and Ireland by digitizing invaluable historical documents containing coastal trade between the countries.
- Integrated Tesseract 4 to add a new neural net (LSTM) based OCR engine, focused on line recognition, with custom trained numbers recognition only model with 99% accuracy.

Meditation App | *Flutter, Java, TensorFlow | Digital India AatmaNirbhar Bharat Innovate Challenge*

Aug. 2020

- Developed an All-in-One Meditation app using Flutter Framework with PoseNet Model during Smart India Hackathon 2020
- Single-pose decoding algorithm is used to decode poses, pose confidence scores, keypoint positions, and keypoint confidence scores from the model outputs.

PROJECTS

Segmentation of retinal fluid | *Prof. Souvik Chakraborty (IIT-D) | Department of Applied Mechanics*

2021

- Implemented 3-D fully convolutional neural networks for Optical CT images.
- Explored a segmentation algorithm based on deep learning to achieve accurate diagnosis and treatment of patients with retinal fluid.
- - The fully implemented 3D convolutional network had an overall segmentation accuracy rate of 99.56%, Kappa coefficient of 98.47%, and F1 score of retinal fluid is 95.50%

Digital India AatmaNirbhar Bharat Innovate Challenge | *Govt. of India*

2020

- Developed ML Powered Meditation app using Flutter Framework during Govt-Backed Bharat Innovate Challenge.
- Built a real-time pose estimation application using the PoseNet MobileNet V1 model and Flutter Camera Plugin.
- Integrated Tensorflow with Flutter to predict Yoga Pose with >90% accuracy.

EXPERIENCE

Web Executive

Oct. 2020 – May 2021

BSW, IIT Delhi

- Developed a CRUD-based portal using React and NodeJS with firebase DB, deployed on Apache server, to refine the application process of ongoing research projects of IIT-D
- Designed and developed multiple static web pages using HTML/CSS.

PUBLICATIONS

DS IN JS | *Data Structure and Algorithms in JavaScript*

Nov.2020

- Wrote and Published an E-Book on Data Structure and Algorithms in JavaScript
- Sold Multiple Copies Worldwide using Amazon/Kindle

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, C++, Kotlin, HTML/CSS, PHP

Frameworks: React, Node.js, Flutter, BootStrap, Tailwind CSS, Next.js

Developer Tools: Git, Firebase, Google Cloud Platform, VS Code, Visual Studio, PyCharm

Libraries: pandas, NumPy, Matplotlib