

# Aditya Kumar

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## EDUCATION

### NIT TRICHY - B.TECH

MAJOR IN COMPUTER SCIENCE

MINOR IN ECONOMICS

Expected May 2021 | Trichy, India

Cum. GPA: 8.99

### MODERN PUBLIC SCHOOL

MATHS AND SCIENCE STREAM

Graduated April 2017 | Delhi, India

CBSE: 91.2 %

## LINKS

**Github:** adityaa30

**LinkedIn:** adityaa30

**Hackerrank:** adityaa30

**Codeforces:** adityaa30

**CodeChef:** adityaa30

## COURSEWORK

### UNDERGRADUATE

Data Structures

Algorithms

Combinatorics & Graph Theory

Machine Learning

Automata and Formal Languages

Operating Systems

Data Communication and Networks

## SKILLS

### TECHNICAL SKILLS

#### PROGRAMMING LANGUAGES

Python • C++ • Java • Kotlin •

JavaScript • Go

#### WEB DEVELOPMENT

HTML • CSS • React • Flask •

Django

#### APP DEVELOPMENT

Android Studio • Android Jetpack

#### TOOLS

Linux • Git • TensorFlow • Docker

• SQL

#### FAMILIAR

Machine Learning • Computer

Vision

### SOFT SKILLS

Bilingual Communicator (English, Hindi)

Public Speaker • Leader

## EXPERIENCE

### INDUS | WEB DEVELOPMENT INTERN

January 2019 - January 2020 | Technische Universität Dresden, Germany

Guide: Prabhas Kumar Yadav (TU Dresden, DE & MUJ, IN) and Prof R. Liedl (TU Dresden)

- Developed an interactive and an easy-to-use **data management and computational online tool** for the assessment and evaluation of **surface water quality** in Flask
- Developed a **data calibration interface** to calibrate parameters concentration to obtain optimum WQI
- Wrote **RESTful API** to calculate WQI implementing complex methods such as CCME WQI, Tiwari Index and generate plots using **plotly** library
- Designed efficient db schema to store water-data having variable number of parameters to decrease query time

## TECHNICAL PROJECTS

### BEER FACTORY | DJANGO | TENSORFLOW

December 2019 - February 2020 | Tiruchirappalli, Tamil Nadu

- An **online strategy-based**, single-player **resource management** game. Each player competes against **computer simulated opponent**
- Implemented custom **FactorEnvironment** to simulate gameplay
- Implemented **Asynchronous Advantage Actor Critic** algorithm and trained the agent using TensorFlow
- Built database models, game and leaderboard logic views

### PRAGYAN APP | PLAYSTORE LINK | ANDROIDSTUDIO | OPENGL

February 2019 - April 2019 | Tiruchirappalli, Tamil Nadu

- Worked on the official app for the Pragyan'19 (The International Techno-Managerial Fest of NIT Trichy)
- Created a customized implementation of a **general particle simulation using OpenGL in Java** exponentially improving performance
- A frame rate of 30 fps was achieved rendering 50,000 particles on an old low spec android smartphone
- **Revamp the database** of the app using **room persistence library**

### MORPHEUS | GITHUB | FACE DETECTION | DLIB | DJANGO

January 2019 | Pragyan Hackathon, Chennai | Top 5

- Provide drivers with an easy, intuitive and effective means of **assistance while driving** for long hours, sounds alarm if deemed too tired to drive safely, providing assistance by directing them to the nearest rest-stop, hotel, parking-lot, etc
- Implemented **multi-task cascaded neural networks** to identify faces in a video stream on a frame by frame basis using dlib to identify facial landmarks and extract coordinates of eyes
- Developed the **android app** from scratch to **sound alarm** if drowsiness is detected and **display graph** of recent EAR activity of the driver

## OTHER

### DELTA FORCE | SOFTWARE DEVELOPER

July 2018 - Present | NIT Trichy | delta.nitt.edu

- The coding club of my college, which handles most of the **software development** for various web related activities of festivals such as Festember, Pragyan and NittFest
- Responsible for **developing & maintaining** the institute's official website
- Conducted an introductory **workshop on algorithms** for more than 100 freshers