

## EXPERIENCE

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- **CR RAO AIMSCS · Internship (April 2022 - June 2023):**
  - **Work Area:** Cryptanalysis
  - **Duty:**
    - \* Use different ML algorithm for analysis.
    - \* Work with MPI for parallelizing some algorithms and running them on HPC.
    - \* Implement a novel ML algorithm in CUDA.
    - \* Analysis of several text data and using clustering algorithms to create clusters.
    - \* Writing a transformer model for generating new data.
  - **Tools:** Tenforflow, Keras, Scikit-Learn, CUDA, MPI, pthread
- **Pro Accounting Solutions · Freelance Work (November 2021):**
  - **Work Area:** Java based Android Development
  - **Duty:**
    - \* Implementing several new features in an already existing java based android app.
    - \* Improving the stability of the app and fixing bugs with firebase connection.
    - \* Revamping and modernising the app UI.
  - **Tools:** Flutter, postman, Android Studio
- **Aim2Excel · Freelance Work (October 2021):**
  - **Work Area:** Flutter based Android Development
  - **Duty:**
    - \* Improving the UI of a flutter based app.
    - \* Improving the stability of the app and fixing REST based connections to server.
  - **Tools:** Android Studio
- **Pro Accounting Solutions · Freelance Work (September 2021):**
  - **Work Area:** Java based Android Development
  - **Duty:**
    - \* Implementing new features in an already existing java based android app.
  - **Tools:** Android Studio

## EDUCATION

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- **University of Hyderabad (2021-2023)** TG, India  
*Masters of Technology(M.Tech) - Information Security, CGPA: 9.57* 2022  
*Courses:* Cryptography, Maths, Ethical Hacking, Advanced Computer Network, Big Data, Reverse Engineering and Malware Analysis, Blockchain, Secure Tools and Technology, Cloud Computing
- **SRM Institute of Science and Technology (2016-2020)** TN, India  
*Bachelor of Technology(B.Tech) - Computer Science and Engineering, CGPA: 7.18* 2022  
*Courses:* Computer Graphics, Operating Systems, Data Structures, Analysis of Algorithms, Computer Networks, SQL, TOC

## SKILLS SUMMARY

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- **Languages:** C, C++, Python, JAVA, Kotlin, Dart, JavaScript
- **Tools:** GDB, GCC, CUDA, CUDA-GDB, Valgrind, GIT, Wireshark, SQLite, Latex
- **Libraries:** Scikit-Learn, Tensor Flow, Keras, OpenCV, cryptopp, QT, GMP, Boost, ReactJS, Electron, visjs
- **Platforms:** Linux, Windows

## PUBLICATIONS

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- **A Novel approach for Training Neural Network using Linear Programming:** Published in- International Journal of Advanced Science and Technology (SCOPUS) Link- <http://sersec.org/journals/index.php/IJAST/article/view/8621>
- **ML Classifier using Multiple Neural Network Trained by Linear Programming (Manuscript submitted):** This is a major improvement over the above algorithm.

## COPYRIGHTS

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- **Classifier software using neural network and LP solver** Classifier software using neural network and LP solver: IN SW-12271/2019 · Issued Jan 3, 2019
- **Classifier Software Using Neural Network And LP Solver Version 2:** Diary No- 16114/2023-CO/SW

## PAPER PRESENTATIONS

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- **22nd Intelligent Systems Design and Application (ISDA22):** Presented my paper "ML Classifier using Multiple Neural Network Trained by Linear Programming (Manuscript submitted)" This is a major improvement over the above algorithm"

## PROJECTS

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- **A Novel approach for Training Neural Network using Linear Programming(Non Backpropagation Neural Network):** This is a novel algorithm for machine learning based on a novel neural network architecture, which make use of linear programming for the optimization process. Its main advantage is that while training this network on a data-set we only need to run it for one iteration, and it manages to deliver descent accuracy with less data.  
<https://github.com/YuvrajTalukdar/Non-Backpropagation-Neural-Network>  
**Tech:** C++ std 17
- **ML Classifier using Multiple Neural Network Trained by Linear Programming (Core Generating Network):** This is the version 2 of the "A Novel approach for Training Neural Network using Linear Programming". This provided a massive improvement over its predecessor and proves neural network trained using LP can come close in performance to existing methods.  
**Tech:** C++ std 17
- **ML Classifier using Multiple Neural Network Trained by Linear Programming CUDA Edition:** This is the CUDA implementation of the project "ML Classifier using Multiple Neural Network Trained by Linear Programming"  
**Tech:** C++ std 17, CUDA
- **AssameseWikiGPT (Ongoing Project):** A transformer model trained on the entire Assamese wikipedia.  
**Tech:** Python, Tensorflow, Keras
- **Segment Generating Network (Ongoing Project):** This is the next version of the project "ML Classifier using Multiple Neural Network Trained by Linear Programming".  
**Tech:** C++
- **OSIRIS (Open Source Information Research and Intelligence System) :** OSIRIS is an open source app written in JS and C++ using electron for the body, ReactJS for the frontend and C++ in the backend for storing and researching on events or relations.  
<https://github.com/YuvrajTalukdar/OSIRIS>  
**Tech:** C++, cryptopp, ReactJS, Electron, MaterialUI, VisJS, JavaScript.
- **Modified sobel edge detector version 1:** It is a layer above the sobel edge detection algorithm which further enhances the results from the sobel edge detector.  
<https://github.com/YuvrajTalukdar/modified-sobel-edge-detector>  
**Tech:** C++, OpenCV
- **Modified sobel edge detector version 2:** Compared to version 1 this better detects fuzzy borders.  
<https://github.com/YuvrajTalukdar/modified-sobel-edge-detector-version2>  
**Tech:** C++, OpenCV
- **FileCrypt and FileCrypt Native :** FileCrypt is a flutter based android application which helps you to securely encrypt your files in a value. FileCrypt Native is the same app but written in java and is much faster than Flutter version.  
<https://github.com/YuvrajTalukdar/FileCrypt>  
<https://github.com/YuvrajTalukdar/FileCryptNative>  
**Tech:** JAVA, Dart, Flutter, AndroidSDK
- **Expense Monitor 2:** This is an android app written in Kotlin for keeping track of daily expenses.  
Few features of the app-
  - It Stores the daily expense data according to custom made category and can generate a monthly report of the expenses.
  - It can export the expense data to a spreadsheet file which can be accessed using spreadsheet application.
  - It has syncing feature which allows you to sync you expenses across devices.
  - It helps you perform detailed analysis you your monthly expenses.<https://github.com/YuvrajTalukdar/ExpenseMonitor>  
**Tech:** Kotlin, AndroidSDK

## LINKS

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- **GitHub:** <https://github.com/YuvrajTalukdar>
- **LinkedIn:** LinkedIn Profile:// Yuvraj Talukdar