Mayank Kumar

Room-133,
Limbdi Hostel, IIT (BHU) Varanasi
India 221005

Email: mayank.hawk@gmail.com
Linked in
Phone: (+91) 9695809152

EDUCATION

2015 - CURRENT **Indian Institute of Technology (BHU) Varanasi**,
Integrated Dual Degree (B.Tech + M.Tech)
Major: Computer Science and Engineering
GPA: **9.12/10**

2014 All India Senior School Certificate Examination(CBSE)
SCORE: **97.4%**

2012 All India Secondary School Examination(CBSE)
CGPA: **10/10**

PUBLICATIONS

JANUARY 2018 **Lightweight Verifiable Auditing Scheme for Outsourced database in Cloud Computing**
Mayank Kumar, Dr. P. Syam Kumar
14th International Conference on Distributed Computing and Internet Technology (ICDCIT)

RESEARCH EXPERIENCE

SUMMER 2018 **Developing lightweight Blockchains for IoT network**
Guide: *Dr. M. Rajarajan* (City, University of London)
This research focuses on developing a block chain that works on IoT devices with low computation and storage resources. The project involves results from an actual test-bed of Raspberry Pi's and simulation results for a scalable network.

JAN-APRIL 2018 **Secure K-means clustering using homomorphically encrypted dataset**
Guide: *Dr. K.K. Shukla* (I.I.T (B.H.U.) Varanasi)
We coupled encrypted data with additional information to facilitate third party analysis. The project was based on a mechanism for Homomorphically secure k-means clustering and the concept of an Updatable Distance Matrix (UDM). The evaluation henceforth showed that the proposed mechanism produced quite similar clustering results as when standard k-means is applied,but in a secure way. Both data privacy and correctness were preserved with the proposed mechanism.

SUMMER 2017 **Verifiable Auditing Scheme for Outsourced database in Cloud Computing**
Guide: *Dr. P. Syam Kumar* (I.D.R.B.T. Hyderabad)
This project involved implementing a lightweight verifiable auditing scheme for outsourced database (ODB) in cloud computing. The scheme is used to verify the integrity and confidentiality of the outsourced database. The scheme employed lightweight homomorphic encryption and EMB trees along with bloom filters as the authentication data structure.

Projects

Summers 2018 | **Graph visualization of Twitter data for social threat analysis**
Guide: *Dr. Muttukrishnan Rajarajan, Dr. Waqar Asif* (City, University of London)
This project was aimed at developing a visualization tool that takes extracted twitter data and visualizes every user as a node, with various features based on the content and frequency of his tweets and also highlighting his relationship with other users.

Jan-April 2017 | **Performance Evaluation of Fog Computing using iFogSim**
Guide: *Dr. Tanima Dutta, Dr. Hari Prabhat Gupta* (I.I.T (B.H.U.) Varanasi)
iFogsim is a simulator for setting up a fog computing environment. Study of iFogsim in detail and with its help, evaluated few real world applications like "Smart patient Monitoring System".

Relevant Coursework

Computer Science — Data Structures, Artificial Intelligence, Information Security, Operating Systems, Theory of Computation, Computer Networks Network security, Intelligent Computing, Information Retrieval, Computer Architecture, Database Management Systems, Software Engineering, Computer Graphics.

Mathematics — Calculus, Linear Algebra and Differential Equations, Probability and Statistics, Mathematical Modelling, Number Theory.

Scholastic Achievements

July. 2015 — All India Rank of 3289 in IIT JEE Advanced attempted by about 150,000 students.
July. 2015 — All India Rank of 1302 in IIT JEE Mains attempted by about 1,200,000 students.
July. 2014 — Received CBSE Merit certificate from the Human Resource Development Minister of India for being in the top 0.1% in All India Senior Secondary School Examination.
June. 2014 — Received the Scholarship for Higher Education (SHE) under the INSPIRE program of the Ministry of Science and Technology awarded to top 1% of the class XII examination.

Skills and Interests

Languages: C/C++, Python, HTML/CSS, Javascript
Technologies: BASH, Django, Arduino IDE, Git, LaTeX .
Operating Systems: Linux Packages(Ubuntu,Kali,ParrotOS), Openstack(Cloud), Raspian, Windows.

Extra-curricular Activities

- Built robots equipped with IR sensors, capable of detecting and decoding IR signals using Atmega 16 microcontroller and Arduino IDE.

- Built a hand - gesture controlled robot using Atmega 16 microcontroller and Arduino IDE at Technex'16, the Annual Techno - Management Fest of IIT BHU.

- Built a working radio-controlled Quad-copter with high maneuverability, stability, speed and thrust at Technex'16, the Annual Techno - Management Fest of IIT BHU.

- Worked with Picubes (A start-up awarded and funded by Ericsson Innovation Awards 2016) on a Smart Helmet for two-wheelers.