# Priyanka Nath

6/83 Bijoygarh, Jadavpur,
Kolkata – 700032, India.
email: **pnath.it@gmail.com**
mobile: **+91 990 321 5630**

## Objective

Seeking a summer internship in computer science as an opportunity to learn how to undertake research and enhance my skills & knowledge.

## Education

**KIIT University** *(formerly Kalinga Institute Of Industrial Technology)* **–**
Bhubaneshwar, India *July, 2015 - Present*
*Bachelor of Technology, Information Technology* *Current GPA: 8.64 / 10.0*

**South Point High School –** Kolkata, India

All India Senior School Certificate Examination, CBSE (Grade 12) *June, 2015*
*Stream: Science with Computer Science as additional subject*

Secondary Examination, WBBSE (Grade 10) *May, 2013*

## Experience

**Indian Statistical Institute –** Kolkata, India *May, 2017 - July, 2017*
*Mentor - Ansuman Banerjee*
Research Intern under the Summer Internship Program in Cryptology 2017,
under the initiative of *R. C. Bose Centre for Cryptology and Security*, Indian Statistical Institute,
funded by the *'Rx Lab Program'* of Microsoft Research India.

## Projects

**Linux System Call Analysis Application –** Indian Statistical Institute *May, 2017 - July, 2017*
- Developed a linux system call pattern matching application in Python for the Defence Research and Development Organisation (DRDO), Government of India which uses American Fuzzy Lop(AFL) generated inputs to check for vulnerabilities in a software/executable.

**Vigenère Cipher Decoder**
- Created a Vigenère Cipher Decoder in Python which predicts 5 probable keywords given the encrypted ciphertext.

**Rivest Cipher 4 (RC4) Implementation**
- Implemented the stream cipher RC4 in Python and showed that the keystream generated by the RC4 is biased is varying degrees towards certain sequences.

**Naive Bayes Classifier**
- Implemented a Naive Bayes Classifier from scratch for handwritten digits from MNIST digit dataset.

**Principal Component Analysis using GPU**
- Implemented dimensionality reduction by applying PCA on Iris dataset using CUDA-C.

**SpaceTurtle: An Introduction to Turtle Programming**
- Designed a teaching kit for a Mozilla Hackathon, using Python's turtle library, to introduce kids to programming and encourage them to solve problems through logical thinking.

**Bookmarkz: A Social Bookmarking App in Python**
- Developed a social bookmarking app using Django web framework where a user can create an account, share bookmarks, vote on shared bookmarks, etc.

**MysticSquare: An Android Game**
- Created a basic Mystic-Square(also known as 15 puzzle) game for Android using Android Studio.

## Technical Skills

**Programming –** Coded mainly in **C, Python.** Proficient in coding with C++ and Java.
**Web –** HTML, CSS, Javascript. OS – Linux
**Developement Tools –** Android Studio, Android SDK, SQL (MySQL, Oracle), scikit, Matlab, Latex.

## Relevant Courses Taken

Linear Algebra, Data Structures & Algorithms, Object Oriented Programming, Probability & Statistics, Discrete Mathematics, Machine Learning (by Andrew Ng), Cryptography I (by Dan Boneh), Computer Networking.

## Honors & Achievements

- Secured 4$^{th}$ position in the 4th CSI National Programming Contest among 11,000 participants.
- Won 2$^{nd}$ place in HelloWeb Hackathon 2016 hosted by the MozillaBBSR Club by designing a teaching kit to introduce kids to programming.
- Qualified for Round 1 of the Facebook HackerCup 2017.
- Secured the highest grade "O" in Object Oriented Programming in B. Tech. 2nd Semester & Web Technology in 3$^{rd}$ Semester.
- Secured a perfect score (100%) in Mathematics in state-wide Secondary Examination, 2013 among 1,020,000 students.
- Awarded Chitroprobha Upadhi Certification by Bengal Music College, Kolkata, India in 2012 on completing a 6–year course on Painting.
- Selected as one of 20 student judges from MP Birla group of schools for the cultural committee MP Birla Puja Utkarsh Samman 2014.