

Priyanka Nath

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Education

KIIT University (formerly Kalinga Institute Of Industrial Technology) – Bhubaneswar, 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)
Stream: Science with Computer Science as additional subject

June, 2015

Secondary Examination, WBBSE (Grade 10)

May, 2013

Experience

Indian Statistical Institute – Kolkata, India

May, 2017 - July, 2017

Advisor - Ansuman Banerjee

Research Intern under the Summer Internship Program in Cryptology 2017, R. C. Bose Centre for Cryptology and Security, Indian Statistical Institute (funded by Microsoft Research India).

Projects

Linux System Call Analysis – Indian Statistical Institute

May, 2017 - July, 2017

- Developed a linux system call pattern matching application in Python which uses American Fuzzy Lop(AFL) generated inputs to check for vulnerabilities in a executable software binary (funded by the Defence Research and Development Organisation (DRDO), Government of India).

Principal Component Analysis using GPUs

- Implemented dimensionality reduction by applying PCA on Iris dataset using CUDA-C.

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.

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.

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.

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, Windows.

Development 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 4th position in the 4th CSI National Programming Contest among 11,000 participants.
- Won 2nd 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 3rd 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.