RISHABH RANJAN

ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech in Electrical Engineering	Indian Institute of Technology, Delhi	8.922
2017	CBSE (XII)	Sadar Alam Memorial Secondary School	92.6%
2015	CBSE (X)	Sainik School Purulia	10/10

SCHOLASTIC ACHIEVEMENTS

- **JEE Advanced 2017** : Secured an All India Rank of **1385** among 2 lakhs students
- **JEE Main 2017** : Secured an All India Rank of **404** among 12 lakhs students
- **KVPY 2016** : Awarded fellowship by IISc, Bangalore after getting an All India Rank of **324**
- **Super 30, 2015**: Selected for Super 30 programme which provides free coaching facilities for JEE preparation

INTERNSHIPS

- **Arimon Digilytics Pvt. Ltd. | Data Science Intern** : *June, 2020 - July, 2020*
  - Contributed to an internal framework for extracting information from document images like invoices, passports, payslips
  - Used Microsoft Azure Form Recognizer to fine-tune a pre-trained **LayoutLM** model for information extraction task
  - Worked on a new tool for extracting tables from document images using Facebook's pre-trained **Detectron2** model

PROJECTS

- **Design of Approximate Multipliers | Prof. Basabi Bhaumik** : *May, 2020 - June, 2020*
  - Did a literature review of the research paper titled *Approximate Multipliers Based on New Approximate Compressors*
  - Compared the performance of 8-bit approximate and exact multipliers in terms of power and speed using **Cadence**
  - Two different architectures of approximate multipiers based on different **PPM** reduction technique were also compared
- **Web Programming Projects** : *April, 2020 - June, 2020*
  - Developed a book review website using HTML, CSS for frontend, Flask for server and PostgreSQL for Database
  - Developed a Slack-like chat application using JS for DOM manipulation and **WebSockets** for persistent connection
  - Developed a food ordering website using **Django** for server, SQLite for database. Deployed all 3 web apps on Heroku
- **Five Stage SimpleRisc Processor | Prof. Smruti R. Sarangi** : *Nov, 2019*
  - Designed a pipelined processor with five stages having ALU, Control Unit, Memory, Register File on Logisim software
  - Implemented data lock, branch lock and forwarding unit in the processor to take care of control and load use hazards
- **Detection of Stable Limit Cycle using Sum of Squares programming | Prof. Deepak Patil** : *May, 2019 - July, 2019*
  - Developed a method to detect the presence of stable limit cycle for 2nd order non-linear systems using sum of squares
  - Successfully tested the approach on various examples by a program written in MATLAB with the help of **SOSTOOLS**
- **Web Search Engine | Prof. Amitabha Bagchi** : *Oct, 2018*
  - Developed a search engine based on inverted index of webpages using Hashmaps and **Height Balanced BSTs** in Java
  - Used scoring function to rank webpages in order of their relevance based on term and inverse document frequency
- **Mobile Phone Tracking System | Prof. Amitabha Bagchi** : *Sept, 2018*
  - Implemented a **k-ary tree** data structure in Java to solve a simplified version of the mobile phone tracking problem
  - Kept track of locations of all mobile phones so that when a phone is called, a connection may be established with it
- **Music Recognition Application | Prof. Abhishek Dixit** : *Sept, 2018 - Nov, 2018*
  - Developed an application to identify a short clip of music captured using a microphone out of a small database of songs

TECHNICAL SKILLS

- **Programming Languages** : C/C++, Python, Java, MATLAB/Octave, SQL, HTML, CSS, Javascript (ES6), Latex, Arduino
- **Tools and Technologies** : Git, Flask, Django, Bootstrap, Scikit-learn, Tensorflow, Pandas, Simulink, Cadence, Logisim
- **Online Courses** : Deep Learning Specialization by *deeplearning.ai* , Databases and SQL for Data Science by *IBM*

EXTRA CURRICULAR ACTIVITIES

- **Academic Mentor** : *Aug, 2018 - Nov, 2018*
  - Provided guidance and academic help to first year students for the course of "Introduction to Chemistry - CML100"
- **Republic Day Parade** : *Jan, 2018*
  - Participated in the parade as pilot to the chief guest of the event - Director, IIT Delhi and won the **Best Cadet Award**
- **NCC Camp** : *Dec, 2017*
  - Attended a five day camp organized by 5 Delhi NCC Battalion and learnt basic drill, rifle handling, map reading etc.
- **Inter-Hostel Basketball Competition** : *July, 2013*
  - Winner among four hostel teams of Sainik School Purulia, West Bengal

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IIT COURSE

Degree	Institute	CGPA
B.Tech in Electrical Engineering	Indian Institute of Technology, Delhi	8.922

COURSES DONE

Intro. To Computer Science, Data Structures And Algorithms, Circuit Theory, Signals And Systems, Digital Electronics, Introduction To Economics, Probability & Stochastic Pro., Power Electronics, Analog Electronic Circuits, Computer Architecture, Communication Engineering, Machine Intelligence& Learning