Tanmay Sachan

Resume

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Education

2018–2023	**Bachelor of Technology and Master of Science**, *Computer Science and Engineering, International Institute of Information Technology, Hyderabad, CGPA 8.35/10*.
2018	**Senior Secondary**, *Delhi Public School, Faridabad, Haryana, India 90.8%*.
2016	**Higher Secondary**, *Delhi Public School, Faridabad, Haryana, India CGPA 9.8*.

Experience

May 2019 –August 2019	Spent the summer working with **Xapian**, an open source search engine library under the **Google Summer of Code** program. Worked on improving and parallelising the library's testsuite.
August 2019 –Present	Working as admin of **Open Source Development Group** of IIIT Hyderabad.
May 2020 –Present	Research student at **Information Retrieval and Extraction Lab (iREL)** at IIIT Hyderabad.

Achievements

2018	Selected for **ACM-ICPC regionals**, ranking at 128 from over 2000 participating college teams.
2018 and 2017	Selected for the **training camp for International Olympiad in Informatics**, as a part of top 30 school programmers in India.

Projects

January 2020	Worked on the development of a **chatbot** that helps people with fighting depression for a startup.
November 2019	**Modified the XV6 Operating System by MIT**. Added additional helpful system calls, tweaked the process scheduler to support various algorithms like First Come First Serve, Priority Based Scheduling and Multi Level Feedback Queue, gathered performance data over various IO bound and CPU bound processes.
October 2019	Used metrics like **tf-idf** and the **BM-25** algorithm, to create an efficient program that rates the similarity of two texts of variable lengths for a 24 hour hackathon.
September 2019	**Created a shell**, using low level C. Handled parsing of complex commands and implemented various custom commands to replicate and extend the behaviour of a standard linux shell. Also added support for suspending and resuming multiple programs running simultaneously.
September 2019	Programmed an **IOT unit**, consisting of an **ESP-32 microcontroller** and a **pH sensor** and deployed it in hostel overhead water tanks, from where the data is constantly uploaded to an external server where it is monitored.

March 2019   Worked on **Virtual Labs**, an initiative by the **Government of India** to improve the quality of education in lower tier engineering colleges of India. Added various simulations and illustrations of different computer science algorithms and experiments. Made use of Python(Django) and JavaScript.

Technical Skills

Languages   C, C++, ASM, Python, JavaScript, Java, Bash, SQL, HTML, CSS

Software   Linux/Unix, Git, Jupyter, CLion, PyCharm, Vim

Libraries and Frameworks   Tensorflow, Pytorch, Numpy, Django, Flask, NLTK, Spacy

Coursework

Fall 2018   Real Analysis, Computer Programming, Discrete Structures, Digital Systems and Micro-controllers.

Spring 2019   Introduction to Software Systems, Linear Algebra, Data Structures and Algorithms, Computer Systems Organization, Introduction to IOT.

Fall 2019   Automata theory, Operating Systems, Embedded Systems, Science, Algorithms Analysis and Design, Data and its Applications, Probability and Statistics.

Spring 2020   Design and Analysis of Software Systems, Machine Learning, Natural Language Processing, Introduction to Quantum Information and Computation, Software Programming for Performance, Introduction to Information Security.