

Swapnil Das

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Academic Details

- 2015–2019 **Bachelor Of Technology In Computer Science Engineering**,
Indian Institute of Technology Delhi, CGPA – 8.474.
- 2015 **CBSE AISSCE**, *Hope Hall Foundation School, Delhi, Percentage – 95.8%.*
- 2013 **CBSE AISSE**, *Jawahar Navodaya Vidyalaya, Assam, CGPA – 10.*

Relevant Courses

- Computer Science Data Structures and Algorithms, Discrete Mathematics, Digital Logic and System Design, Introduction to Computer Science, Programming Languages, Computer Architecture, Design Practices.
- Mathematics Probability and Stochastic Processes, Calculus, Linear Algebra and Differential Equations.
- Electrical Introduction To Electrical Engineering, Signals & Systems.
- Online Introduction to Computer Networking(Stanford), Parallel Programming(EPFL), CS50(Harvard).

Projects

- May - present **Improvement of Rate Adaptation in 802.11 ac**, *Under Prof. Ben Leong, SOC, NUS, Singapore.*
- Implementing Dynamic Channel Width changes per frame basis to see the effect in overall throughput.
 - Implemented in Qualcomm, Intel, Marvell chips with atheros 10k, QCA9880, mwlwifi drivers respectively.
- May - present **Power optimisation in heterogenous clusters**, *Under Prof. Ben Leong, SOC, NUS, Singapore.*
- Reduce power consumption in nodes by distributing tasks to nodes with low requirements of power.
 - Experimenting with 5 Raspberry Pis' and 2 servers as a heterogenous cluster using Kubernetes in Docker.
- December, 2016 **Find sections from a PDF**, *Under Prof. Dr. Maya Ramanath, CSE, IIT Delhi.*
- May, 2017
- Developed a model in Python using NLTK module to find different sections from research papers.
 - Regex matching and Naive Bayes methods were used for finding patterns and Parts of Speech tagging respectively.
- September - **Search Engine by Inverted Search Index**, *Under Prof. Dr. Amitabha Bagchi, CSE, IIT Delhi.*
- October, 2016
- Developed a search engine model in Java using Inverted Search Index.
 - Summation of $1/(\text{square of the indexes})$ where words appeared, was used to calculate relevance.
- August - **Mobile Phone Tracking**, *Under Prof. Dr. Amitabha Bagchi, CSE, IIT Delhi.*
- September, 2016
- Developed a multithreaded model in Java to replicate real life mobile tracking in a area.
 - Analysed the Two-way-Radio system of connection.

Independent Projects

- October - **Proxy/Server-client model**, *Python, Sockets, Threading, https://github.com/swapnil96/Proxy-Server.*
- November, 2016
- Created a server-client model where each server acts as a proxy or delivers the files(any type) to the clients.
 - Data is streamed continuously from server through the proxies.
- May - July, 2016 **Peer-to-peer networking**, *Python, Sockets, Link - https://github.com/swapnil96/P2P-chat.*
- Created a P2P service where multiple clients log into a central server and eventually connect to other clients.
 - Server authenticates and manages multiple chat sessions.
 - Analysed crowding and high bandwidth consumption in network by connecting 8 systems simultaneously.

Technical Skills

- Languages Python, Java, C++, C, Ocaml, Lex, Yacc, VHDL, HTML, CSS3, MySQL, Javascript
- Frameworks Bootstrap, Django, JQuery, Socket, TKinter, Web2Py, NLTK
- Softwares GIT, Xilinx ISE suite, Autodesk Inventor, Android Studio, Visual Studio, L^AT_EX, MS office

Scholastic Achievements

- 2015 Secured **All India Rank 2666**(category-28) in JEE-Advance, 2015 among **0.15 Million** candidates.
- 2015 Secured **All India Rank 1728**(category-17) in JEE-Main 2015 among **1.4 million** candidates.

- 2015 Awarded Scholarship of Merit by CBSE for being in **top 25 among 1 Million** in AISSCE.
- 2014 Selected as **(KVPY)** scholar under 'Kishore Vaigyanik Protsahan Yojana' given to top 1% conducted by **IISc Bangalore and Govt. of India.**
- 2013 Awarded Scholarship of Merit by CBSE for being in **top 27 among 1.3 Million** in AISSE.
- 2012 Qualified **Regional Mathematics Olympiad(RMO)** and appeared in **Indian National Mathematics Olympiad(INMO)** conducted by **Homi Bhabha Centre for Science Education(HBCSE).**

Extra Curricular Achievements

Programming Contest

- Jan 2016 **Microsoft Code.Fun.Do Hakathon** - Runners up. Created a game in Visual Studio using C#
- July 2016 **Microsoft Finalist Forum** - Participated online and completed 1st round.

Others

- 2013 3rd place in Intra District debate competition.
- 2012 Regional Badminton player from JNV under Shillong Region.
- 2002 - 2009 Completed a 7 year course in Fine – Arts.

Position of Responsibility

- 2017-18 Students Affairs Council representative from Kumaon hostel.
- 2016-17 Website executive of eDC team, IIT Delhi.
- 2016-17 Activity Head in TRYST(Annual technical festival) 2017 of IIT Delhi.