Aayush Saxena

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Personal Information

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Education

2012-2016 **B.Tech in Computer Science** International Institute of Information Technology, Hyderabad, India
CGPA: *8.26/10*

2011–2012 **Higher Secondary School Certificate** Neerja Modi School, Jaipur, India
Percentage: *91.4*

2009-2010 **Secondary School Certificate** Neerja Modi School, Jaipur, India
CGPA: *9.8/10*

Achievements

- Solved 136 problems on Sphere Online Judge (SPOJ). World Rank 3416.
- Rated Specialist at Codeforces (Points: 1434) and rated 2000 at Codechef.
- Achieved 28th rank out of 700 teams at Predicting a Biological Response (Kaggle Competition).
- Achieved Dean's Merit List Award for third and fourth semesters in college.
- Achieved *Bronze* medal in National Cyber Olympiad in 2007.
- Received *Second* prize in Indian Science Olympiad 2012.
- Received *Brilliant Student Award* for three times in school.

Experience and Positions held

Aug '16-Present **High Frequency Trading Developer at Silverleaf, Mumbai, India** Machine Learning
Built an end to end connection for data transfer with one of our clients using vibe.d (dlang). Also implemented entity recommendation system using collaborative filtering technique which recommends stocks of different organizations based on their history.

May '15-Jul '15 **Software Engineering Intern at MAQ Software, Hyderabad, India** Web and App Development
Built an integrated desktop application to reflect customer insights for the Microsoft sales teams. Worked on retrieving data and building the user interface using SSIS, TSQL, JavaScript, HTML5, CSS and Visual Studio Express for Windows 8.

May '14-Jun '14 **Developer at idatapoint** Mobile Application
Developed an Activity Scheduler in *Visual Studio 2013*, aimed at planning and aiding users to complete tasks. Used locality sensitive crowd-sourcing to gather required help. Implemented using Java.

Aug '14-Dec '14 **Undergraduate Teaching Assistant for Mathematics** IIIT Hyderabad
Conducted tutorials and quizzes for the institute core course taken by over 200 freshmen. Responsible for grading semester examinations.

Selected Coursework

Machine Learning, Cloud Computing, Artificial Intelligence, Database Systems, Computer Networks, Algorithms

Projects

Monsoon '15 **Resume Summary** — Cloud Computing
Aimed at handling resumes present in a database such that one can filter out specific resumes based on various search query inputs using Hadoop and web2py. The web2py app allows applicants to upload their resumes and filter out resumes based on keywords and also to view filtered resumes.

Monsoon '14 **Predicting a Biological Response** — Machine Learning & Kaggle
Aimed at building as good a model as possible so that we can relate molecular information, to an actual biological response. Used machine learning algorithms like pipeline, random forest classifier and logistic regression to find out the biological response.

Monsoon '14 **Accelerometer Biometric Competition** — Machine Learning & Kaggle
Investigating the feasibility of using accelerometer data as a biometric for identifying users of mobile devices. A file of test questions was provided. Used machine learning algorithms like random forest classifier and logistic regression to find out whether the accelerometer data came from the proposed device.

Monsoon '14 **Single-user DBMS** — Database Systems
Built single-user DBMS that can execute certain simple SQL queries like select, create etc. Implemented in C++. Used dynamic programming to efficiently join tables and expression trees for query optimization.

Spring '14 **Backgammon AI** — Artificial Intelligence project
Implemented a 2-ply *expectimax* algorithm to play Backgammon. Used various heuristics (Expectimax Search Trees) to improve the efficiency. Used strategies like Holding Game and Blitz to increase the chances of winning the game.

Spring '14 **Typical File Transfer protocol** — Computer Networks project
Implemented a basic file transfer and chat server/client using *socket programming* in C. The program supported both TCP & UDP and MD5 checksum. The protocol supported file upload, file download, verify filehash, and indexing of files based on regular expressions.

Spring '13 **Comparison between AVL trees and B+ trees** — Data Structures
Built using C and C++. Tested over a variety of test cases to find out the similarities and differences between the two on datasets ranging from 10 to 10,00,000.

Monsoon '13 **Movie Theater Portal** — Database project
A database consisting of all the details of a movie theater along with the portal to process user's queries. Built in web2py framework with the help of MySQL to retrieve theater's information.

Spring '13 **Online Project Library** — Web Designing
A repository allowing different categories of users to store their projects online with different modes of saving. Built in web2py framework, the project supports collaborative working by allowing different users to work on a single project.

Monsoon '13 **Linux Virtual File System** — Operating Systems
Performing the following tasks of a filesystem using FUSE: (i) to have a name, (ii) to know how it is mounted, (iii) to know how to lookup files, (iv) to know how to find (read, write) file contents.

Click on project title to view the Github repository

Skills

Programming: C/C++, Python, Java, dlang, Php, Bash (basic), Javascript.
Web: HTML5, CSS, Joomla, Web2Py, vibe.d.
Statistical languages: Matlab (basic).
Operating systems: GNU Linux.
Libraries: OpenGL.
DBMS: mySQL.
Others: Vim, LaTeX, Eclipse, Git, Subversion.