OBH-83, IIIT Hyderabad
Gachibowli, Hyderabad
India − 500032
✆ +91 8886222557
✉ tanujkhattar4@gmail.com
⌨ tanujkhattar.wordpress.com
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Tanuj Khattar

Education

2014–present	**B.Tech in Computer Science**, *International Institute of Information Technology, Hyderabad*, *CGPA − 8.52/10*.
2012–2014	**Senior Secondary, CBSE**, *N.K. Bagrodia Public School*, Delhi, *Percentage − 97.2/100*.

Research

Monsoon, 2017	**Independent Study**, *Advisor: Dr. Saswata Shannigrahi*, IIIT-Hyderabad. On Rectilinear Crossings in Uniform Hypergraphs.
Summer, 2016	**Research Intern**, *Advisor: Dr. Samir Datta*, CMI. Maximal Planar Subgraph Problem in LogSpace.

Work Experience

Summer, 2017	**Software Engineering Intern**, *Facebook Inc.*, London. Worked on Live-Server Infrastructure team to design and develop a load-testing library for live-sets server implementation. All code was reviewed, perfected and pushed to production.

Achievements

ACM-ICPC - 18	Member of team TooWeakTooSlow which was ranked 31st (out of 140 teams) in ACM-ICPC World Finals - 2018 and 1st in Asia Chennai Regional Contest - 2017 and 1st in Asia Amritapuri Regional Contest - 2017.
ACM-ICPC - 17	Member of team mobius_treap which was ranked 56th (out of 128 teams) in ACM-ICPC World Finals - 2017 and 1st in Asia India-Finals Contest - 2016
Dean's List	Selected in the Dean's Merit List for academic excellence for the year 2014-2015.
Competitive Programming	○ **Codeforces:** Highest Rating : 2435 [Red] ○ **Topcoder:** 1st in Topcoder Collegiate Contest-India 2016. (Highest Rating: 1747 [Yellow]) ○ **Codechef:** Highest Rating: 2511 [Red] ○ **HackerCup-16:** Ranked 410 in Round-2 of Facebook Hacker Cup 2016 (6566 Participants in Round1 and 1666 Participants in Round-2). ○ **CodeJam-16:** Ranked 1414 in Round-2 of Google Code Jam 2016 (27000 Participants in Qualification Round. 2344 Participants in Round-2).
AIEEE	Ranked 113 in JEE Mains out of 1.2 million who participated.
IIT-JEE	Ranked 1173 in JEE Advanced out of 150,000 who participated.

Teaching and Blogging

Spring, 2017, 2018	**Teaching Assistant**, IIIT-Hyderabad. ○ Data Structures, under Prof. Lini Teresa Thomas. ○ Principles of Information Security, under Prof. Kannan Srinathan

2015-present	**Algorithmic Blogging**. Wrote blogs, with $\geq$ 110K views, explaining theory and applications of few advanced algorithms, some which did not have good resources available. Particularly, Centroid Decomposition of a Tree.
May, 2016, 2017	**IOITC Coach**, *TISB Bangalore, CMI Chennai*. Delivered lectures and prepared problems for Team Selection Test(TST) at the camp, which helps in selection of students who represent India in International Olympiad in Informatics (IOI).
June, 2017	**Indian Programming Camp Trainer**, *Codechef*, IIT-Gandhinagar. Recorded lectures on theory and applications of Biconnectivity, Suffix-Trees,Aho-Corasick pattern matching, and Advanced Tree Structures like HLD, Persistent Centroid Decomposition Tree etc.

Courses

Theory	Data Structures, Algorithms, Complexity and Advanced Algorithms, Theory of Computation, Game Theory, Graph Theory, Principles of Information Security
Others	Operating Systems, Compilers, Distributed Systems, Artificial Intelligence, Computer Networks, Principles of Programming Languages, Statistical Methods in AI, Database Systems

Projects

AI-Bot	Made a bot that plays a modified version of Ultimate Tic-Tac-Toe using alpha-beta pruning and custom heuristics.
Chiller-Selection Tool	Developed a tool that selects an optimal chiller, given a building profile and a list of chillers available. The tool uses various parameters of chillers to analyze a chiller and data clustering techniques (K-means) to attain an approximate optimal solution.
FlatB Compiler	Designing a new programming language and its grammar, IR etc to develop an efficient compiler using tools like Flex and Bison.
P2P File Sharing App	Developed an application in python that enables data/file transfer (over UDP and TCP), indexed searching and automatic synchronization of files in a shared folder.
Linux Mini Shell	A linux shell implemented in C programming language using concepts of fork,exec,signals,pipes etc. as a part of Operating Systems course.

Technical skills

Working Knowledge	GNU/Linux,C,C++(STL, Folly)
Past Experience	Python, Bash, HTML, Javascript, Java, Django(basic), OPENGL3, MATLAB, Racket(Scheme), Mercurial, Google Tests, Phabricator, Flex, Bison.

Position of Responsibility

2016-2017	CodeCraft Coordinator.CodeCraft is an international programming competition organized by IIIT-H every year.
2016-2017	IIIT-H Programming Club Coordinator.

Other Interests

- Dancing. Particularly Bhangra and Contemporary dance forms.
- Sports. 4 times (2007-2011) Gold Medalist in Delhi State Yoga Championship.