PRAGUN SAXENA

CSE Student | Software/Firmware Engineer

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EXPERIENCE

Device Intern
Microsoft

📅 May 2020–July 2020   📍 Microsoft Hyderabad

- Developed a CFU(Component Firmware Update) compliant virtual device in linux for device testing purposes.

Virtual Software Intern
JPMorgan Chase & Co.

📅 May 2020–May 2020   📍 Virtual Intern

- Worked with establishing **financial Data feeds** and **frontend** web development for visualizing data with perspective

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Teaching Assistant for Data Structures and Algorithms
IIIT Hyderabad

📅 Jan 2020–Apr 2020   📍 IIIT Hyderabad

- Responsible for taking tutorials, problem solving, paper correction, setting up assignments, etc.

Software Intern
RxLab solns.

📅 May 2019–July 2019   📍 New Delhi, India

- Designed and implemented several plugins in Golang using monastache to synchronise state of mongodb to elasticsearch in realtime.
- Wrote search queries for elastic search using kibana.

SKILLS

- **Programming and scripting:** C, C++, Java, Python, Javascript, Bash, Golang
- **Web and Mobile:** HTML5, CSS, Bootstrap, ReactJS, React-Native, WebGL, Flask
- **Misc.:** Linux, Git, Sklearn, Pytorch, Scipy, Kibana, Latex
- **Database:** MySQL, SQLite3, Elastic-Search, Firebase, MongoDB, Neo4j, Lucene Solr, XQuery, BaseX

CO-CURRICULARS

- **Admin, Open Source Development Group, IIIT-H**
- **Logistics Head, Vayu, IIIT-H**
- **Programming Competitions Co-ordinator, Felicity, IIIT-H**

CODING PROFILE

- **Codeforces, handle:pragunsaxena (Expert, 1714 best rating)**
- **Codechef, handle:saxenapragun (Div 1, 1905 best rating)**

PROJECTS

Face Classification and Verification

- The project work included depth understanding as well as implementation of computing eigen-faces required to satisfactorily reconstruct a person in the given dataset (combining 3 different datasets), Face Recognition using kernels and classifiers, Visualization of faces using t-SNE and Face Verification.

Fast Training of Convolutional Network through FFTs

- Developed a CNN network which uses FFT based algorithm to accelerate training and inference. all the codes were optimized to run on multi-processor/multi-threaded fast CPUs and were written in **Cuda** and **Python**.

Distributed Algorithms

- Implemented many graph based and sorting algorithms for distributed systems using **RMI(Java)**, **OpenMP(C++)**, **MPI(C++)** and **cuda(C++/Python)**.

AI bot for tictactoe

- Developed an AI bot for extreme version of tictactoe (2 grids of size 9X9), which uses Minimax algorithm along with alpha-beta pruning for optimization.

Linux Shell

- Developed a terminal based shell using **C**. It supports piping, I/O redirection, signal handline, background and foreground process management, etc.

Proxy Server

- Implemented a client-server model using socket programming along with a proxy server in python.

Blockchain Tictactoe DAPP

- Made a **solidity** contract that facilitates 2 player Tic Tac Toe tournament and deployed it over **ethereum** network.

EDUCATION

B.Tech in Computer Science
IIIT Hyderabad

📅 July 2017–Present   📍 Hyderabad

- CGPA: 8.4
- **Cources:** Data Structures, Algorithms, Operating Systems, Graphics, Software Architecture, Statistical Methods in Artificial Intelligence, Blockchain, Parallel Scientific Computing, Distributed Systems, Artificial Intelligence, DBMS, Linear Algebra, Optimisation Methods

ACHIEVEMENTS

- Ranked 88 in ACM-ICPC Online Round 2019.
- Selected for onsite round of ACM-ICPC Asia Regionals, Ampritapuri 2019-20.
- Ranked 721 in Google Kickstart Round E 2019 out of 2555 participants
- Ranked 342 in India and 2568 globally in Google Hash Code 2020 out of 10k+ participants.
- ranked 2618 in Google Code Jam Round1 2020.
- Qualified for Facebook Hacker Cup round 2 out of 2500 participants.
- Secured All India Rank - 880 (across 1.2 million participants) in JEE Mains conducted by CBSE.