Satvik Ramaprasad

4th Year Computer Science Student at IIIT-Bangalore, Expected graduation in 2021

linkedin | Codeforces - Candidate Master | Project Portfolio | +91 725 966 3454 | satviksr@gmail.com

Education

August 2016 – Present — International Institute of Information Technology - Bangalore (IIIT-B)

- Integrated M.Tech. in **Computer Science**, 8th Semester, expected graduation in 2021 (5 year course)
- Cumulative GPA: **3.93 / 4.00** (98 %), University Topper, Transcript

Experience

Google | Software Engineering Intern, Google Docs Team — May 2020 - July 2020

- Developed a library in Apps Script which emulates the behavior of APIs in VBA that access local file systems.
- The library consists of over 70 VBA local file system APIs consisting of File IO, File Handling and Spreadsheet APIs.
- Setup a complete test system consisting of 5 modules which validates the APIs for VBA spec compliance.

Google Summer Of Code | Organization Admin — CircuitVerse Org, GSoC Page — March 2019 - Present

- **Creator and Team Lead of an open source organization CircuitVerse.org with over 20 active members.**
- Accepted as a mentor org for **Google Summer of Code, Google Code In and Google Season of Docs** in 2019 and 2020.
- Guided and mentored **7+ international students** and contributors in the above programs.

MOSIP - Modular Open Source Identity Platform | Software Intern — Mosip.io — January 2019 - May 2019

- Global effort to develop an open source foundational ID system (like Aadhar) for governments to use.
- Worked on test rig as part of independent verification and validation.
- Developed an interactive tool to validate if a biometric device is compliant with Mosip Device Specification (MDS).

Skills And Interests

Skills - Strong programming and debugging ability, Database Systems, Distributed Systems, System Design, Web Development, Project Management, Programming Languages, Product Design, Computer Graphics, Linux and Production Systems, Dev Ops
Technologies - C++, Python, Javascript, Rails, React, MySQL, PostgreSQL, Git, OpenGL, Tableau, OpenCV
Interests - Scalable Architectures, Cloud Computing, Distributed Databases, Graphics, Rendering, Simulations

Achievements

- **Competitive Programming:** Ranked as one of the top 300 coders in India on Codeforces with maximum rating of **2050**. Current ranking is Candidate Master.
- **Competitive Exams:** JEE Mains - AIR 803, BITSAT Score - 382, Kanataka CET Rank - 76, ComedK rank - 10, Gate - AIR 591
- **ACM-ICPC (Regionals) – 2019**: Ranked 23th all over India out of 2800+ teams in ACM ICPC Asia Kharagpur contest.
- **Dean's Merit List:** I am in the Dean's Merit List 2017, 2018 and 2019 for academic excellence. I have received merit scholarship for the same.

Projects

CircuitVerse | Founder and Team Lead — CircuitVerse.org — Feb 2017 - Present

- **Creator and Team Lead** of CircuitVerse which is an online platform to create, simulate, share and learn digital circuits.
- Used internationally by several professors from over 50 universities across the world including some from **University of Chicago, University of Alabama and Virginia Tech**. The platform has over **100,000 projects** created to date.
- As of July 2020, CircuitVerse has about **3.4 Million Page Views and about 320K users** have used the platform.

Data-structures and Graph Algorithms | Simulation | Digital Logic | JavaScript | Ruby On Rails | PostgreSQL | Product Design | Project Management

Column Store Database | Project Team Lead — Project Report — January 2020 - May 2020

- Lead a team to undertake development of a Column Store database from scratch with a focus on query processing.
- Query processor supported 3 datasources and executed select queries with filtering, projection, joins and aggregations.

C++ | CMake | Boost | Column Store Database | Design Patterns

Toy Distributed Cache | Personal Project — Project Report — January 2020 - May 2020

Built a toy distributed cache system as an experiment. Experimented with various parameters like replacement policy, cache size, node count and query load.

C++ | CMake | Boost | Gossip Protocol | Multithreading | Networking | Membership Lists | Design Patterns

Real-Time Volumetric Rendering | Personal Project — Project Report — August 2019 - December 2019

Built a system to render volumetric data in real time using multi-texture based rendering technique from scratch. The transfer function can be changed during run time via a graphical interface.

C++ | CMake | OpenGL | Shader Programming | Graphics | Volumetric Rendering

Distributed Computing Concepts | Self Study — Self Study Report — August 2019 - December 2019

Studied various concepts like Gossip Protocol, Membership lists, Database Sharding, Consistent Hashing, Time and Ordering in distributed systems, Paxos consensus algorithm etc. Read 4 papers on distributed systems - Cassandra, Google Big Table, Dynamo DB and Google File System.

Cassandra | Google Big Table | Dynamo DB | Google File System | Distributed Systems | Cloud Computing | Large Scale Systems

For an exhaustive list of projects, please refer **Project Portfolio**