Satvik Ramaprasad

Software Engineer III at Google, passionate about distributed systems and algorithms

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Education

August 2016 – August 2021 International Institute of Information Technology - Bangalore (IIIT-B)

- Integrated M.Tech. in **Computer Science**
- Cumulative GPA: **3.94 / 4.00** (98 %), **University Topper**, Transcript
- First rank and all rounder of the year. Recipient of 3 gold medals, Medals

Experience

Google | Software Engineer III, Workspace Platform Team — October 2022 - Present

- Spearheading an effort to enable sales to send offers to customers, ahead of subscription renewals. This is a high-impact, multi-quarter project that is a top priority for the sales team, as well as the Workspace EDU team. The project will make it easier for customers to do business with us and will help us upsell higher-tiered SKUs.
- Significant leadership experience → Mentored and lead around 9 junior engineers (4 L4s, 4 L3s and 1 intern).
- Strong technical expertise → Regularly consulted for expertise on server frameworks, cross-functional PA knowledge, rpc security, experiment framework and team specific domain knowledge.
- Team player → Take initiative to improve several pieces of our infrastructure. Regularly give google-wide tech talks. Organized several community events. Received **9 spot bonuses, 18 peer bonuses and 3 kudos awards.** Awards

Google | Software Engineer II, Workspace Platform Team — July 2021 - October 2022

- Owned and delivered several independent tracks such as transition pipeline, smart discounts and bulk transitions in a massive transitions effort which resulted to over $500M in incremental revenue.
- Worked on multiple cross-functional projects that required aligning multiple UTLs on design approaches and collaborating with cross-PA SWEs across several binaries with different tech stacks.
- Fast track promotion to L4 in 1 year, 3 months. Last rating - **Transformative Impact (top 4 %)**.

CircuitVerse | 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** for last 5 years.
- Guided and mentored several **international students** and contributors in the above programs.

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.

Hackerrank | Software Engineering Intern — Hackerrank.com — December 2020 - June 2021

- Developed an **AI proctoring solution** for online assessments from scratch to work at scale.
- Building state of the art plagiarism and cheating detection for programming assessments (ongoing).
- Worked with several AWS services such as **EC2, S3, Rekognition, SQS, SES, API Gateway, Lambda, Cloudwatch** etc.

Achievements

- **Competitive Programming:** Ranked top 300 coders in India on Codeforces with Master title and rating of **2102**.
- **Competitive Exams:** JEE Mains - AIR 803, BITSAT Score - 382, Karnataka CET Rank - 76, ComedK rank - 10, Gate - AIR 591.
- **Board Exams:** 12th exams - 96.8%, 10th exams - 9.8 CGPA.
- **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 and received scholarship for every year in 2016 - 2021. First rank and all rounder of the year. Recipient of 3 gold medals.

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 100 universities across the world including some from **University of Chicago, University of Alabama and Virginia Tech**. The platform has over **800,000 projects** created to date.
- As of July 2023, CircuitVerse has about **26 Million Page Views** and about **1.9M users** from over **200 countries** have used the platform.

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

LightXLab | Primary Developer — Demo — Jan 2014 - Feb 2016

LightXlab is a project I worked on in high school. It is a tool to simulate ray optics involving different light sources, mirrors etc. It involves solving equations, geometry and physics.

Flash | Geometry | Physics | Graphics | Simulation | Math Equations

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

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

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

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

Skills And Interests

Skills - Strong programming and debugging ability, Database Systems, Distributed Systems, System Design, Project Management
Technologies - C++, Java, Python, Javascript, Rails, React, MySQL, PostgreSQL, Git, OpenGL, Tableau, OpenCV
Interests - Scalable Architectures, Cloud Computing, Distributed Databases, Graphics, Rendering, Simulations