

# SATVIK RAMAPRASAD

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

[in](#) linkedin [🏆](#) Codeforces - Master [🏆](#) Leetcode - Global Rank 614 [📁](#) Project Portfolio [📞](#) +91 725 966 3454 [✉](#) satviksr@gmail.com

## EDUCATION

- August 2016 International Institute of Information Technology - Bangalore (IIIT-B)
- August 2021
- 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.
- Setup a complete test system consisting of 5 modules which validates the APIs for VBA spec compliance.

### 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.

## 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](#)*

## 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:** 12<sup>th</sup> exams - 96.8%, 10<sup>th</sup> 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**.

## 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