# **B SANTHANAKRISHNAN**

**Software Developer** 

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### **SUMMARY**

I am an aspiring computer scientist and software developer with proficiency in modern software design principles and methodologies backed with a strong background in theoretical computer science, mathematics, and logic. I apply my skills to build simple, efficient and reliable software, with a focus on full-stack web development.

## **EDUCATION**

# 2020 - Present | VIT Chennai

B.Tech in Computer Science and Engineering

# 2020 - Present | IIT Madras

B.S in Programming and Data Science

#### **SKILLS**

- Javascript, Typescript, Node.JS React, HTML5/CSS3, Tailwind, Next.js Python, Java, C, C++, Rust, F#
- **Outline** Data structures and algorithms
- ✓ Code structure & architecture
- Scripting, Source Control and Developer tools
- ✓ Database Design, Hardware, Operating Systems, Low level programming
- JavaScript and Node.js internals
- **Cryptography**, Mathematics, and Logic
- Language and compiler design
- Web security, Low level security

## **EXPERIENCE**

# Intern, RISE Lab, IIT Madras: May 2022 - Present

- Working on the **SHAKTI** microprocessor
- Worked with quantum and classical logic synthesis libraries on a relevant cryptography problem

#### Project Head, IEEE Computer Society, VIT Chennai Chapter: October 2022 - Present

- Built web servers and designed APIs as required for various projects and events carried out by the club
- Built frontend applications by carefully following provided UI designs, backed by a strong TypeScript architecture using modern frameworks and libraries.

#### Vice President, HackClub, VIT Chennai branch: October 2022 - Present

• Built multiple websites in vanilla HTML5/CSS3/ES6 JS for events conducted by the club

# **PROJECTS**

- Authored an **Express middleware.** https://npmjs.com/yup-express-middleware.
- Built a full-stack computer from scratch **CPU architecture, assembler, compiler, virtual machine** (for an OOP language) **and an interpreter** as part of the Nand2Tetris Projects.
- Wrote a full fledged discord music bot, with customized services, audio manipulation, and more. https://npmjs.com/jambot
- Wrote a **machine learning** application that recommends the user music based on their mood, which is detected from their face. https://github.com/porridgewithraisins/mood-music-recommendation
- Wrote a script to notify users of open vaccination slots during the COVID-19 vaccination drive - https://gist.github.com/porridgewithraisins/1af7fca4e00cad94cb414e24e0bd9321
- Helped write a fully fledged **tiling window manager** for Windows in AutoHotkey
- Wrote an OO wrapper around the heapq python module, implementing the Heap data
  structure https://gist.github.com/porridgewithraisins/1ecf510de5ed9ebed367925d4a2334d7
- Wrote an **asynchronous task queue** in **typescript** runs on both browser and Node.js https://gist.github.com/porridgewithraisins/02b2c5d394b8adc79776893e8656d35a
- Wrote a module to aid Node.js applications in performing **OAuth** with the **Spotify web API** https://gist.github.com/porridgewithraisins/a71277334164daf6f75e6fae99e4259c
- Wrote a **Node.js module** for applications to easily and flexibly retrieve chess opening information https://npmjs.com/chess-opening-info

# **ACHIEVEMENTS**

#### Hackathon: Hack-O-Pitch, IIT Madras

• Won **3rd Place** by building a **decentralized cloud platform** on top of IPFS, with a wide range of services like authentication, data storage, querying and analytics.

#### Hackathon: HC-Educates, Hackclub VIT Chennai

• Won **2nd Place** by building an **Ed-tech** product to help students manage their workflows better.