

# SOURAB BAVIKATTE RAVI

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## EDUCATION

### UNIVERSITY OF SOUTHERN CALIFORNIA (USC)

Master of Science in Computer Science

Los Angeles, CA

Aug 2022 – May 2024 (Expected)

### VISVESVARAYA TECHNOLOGICAL UNIVERSITY (VTU)

Bachelor of Engineering in Information Science and Engineering

Cumulative GPA: 9.37/10.0; Among top 10 in batch of 120

Bengaluru, IN

Aug 2015 – May 2019

## WORK EXPERIENCE

### TALLY SOLUTIONS PVT. LTD.

Software Development Engineer 2, R&D Team

Bengaluru, IN

Jul 2019 – Jul 2022

#### TallyPrime on AWS

*Technologies: Python, Shell Script, Linux, Docker, Virtualization, Cloud, AWS*

- Devised a secure and scalable containerized solution to run windows applications over the Wine environment on linux VM, used by 10000+ users.
- Introduced real-time file folder sharing and permissions with almost 0 latency using access control list, thereby giving control over user data to users.
- Optimized windows system APIs' implementation in Wine open-source repository, improving the product performance by 1.3x times.
- Troubleshooted and fixed over 30 complex issues in components such as Data migration, VM provisioning, container startup, Security permissions, Lambda functions, code pipeline.

#### TallyPrime Application Development

*Technologies: C, C++, Jira, Confluence, Bitbucket, Visual Studio, Compiler tools*

- Implemented caching mechanisms and dependency accumulation to reduce IO reads from DB, reducing the application startup time by ~40%.
- Reduced external fragmentations in application memory manager by introducing coalescing mechanism for variable block size pools, resulting in ~20% reduction of run-time memory allocation from OS.
- Analyzed and increased efficiency of Thread-Pooling by ~30% by dynamically assigning pool size depending on compute power.
- Maintained, reviewed code changes, performed Root Cause Analysis and resolved over 60 issues in 4 key areas: Memory manager, Parser, UI engine, and application cache.

### SKILLMITHRA LLP. (Ed.Tech Startup)

Full-Stack Web Developer Intern, Core Team

Bengaluru, IN

Jan 2018 – Jul 2019

*Technologies: Node.js, Express.js, Vue.js, MongoDB, Google SSO*

- Developed a scalable middleware server and rest APIs for a coding platform (CodeWork) supporting 5 programming languages.
- Deployed resume builder web application incorporating real-time review, spell check, version control to monitor changes, and exportability in 2 formats: pdf and doc. Utilized by over 2000 users.
- Collaborated and led a team of 4 junior interns to design the platform architecture, APIs, and cross-domain user authentication.

## PROJECTS

### OBJECT ORIENTED DATABASE

Oct 2019

*Technologies: C++, System APIs*

- Designed a general purpose multi-platform (windows and linux) object oriented database in C++ with 64-bit field indexing, custom serialization and deserialization logic to store any C++ class objects.
- Implemented data validation using the CRC-32 algorithm and data security using the 128-bit key AES encryption algorithm.

### FORENSIC SKETCH TO FACE TRANSFORMATION USING GENERATIVE ADVERSARIAL STYLE TRANSFER

Apr 2019

*Technologies: Python, PyTorch*

- Performed literature survey on 2 image-to-image translation algorithms: CycleGAN and Pix2Pix GAN.
- Trained a Deep Learning model with 6000+ images using the CycleGAN algorithm by tuning parameters to transform forensic sketches into realistic looking human face images.

### TEXT SUMMARIZER

Feb 2018

*Technologies: Python, NLTK*

- Designed an algorithm for summarizing text utilizing 5 different natural language processing techniques such as POS tagging, stemming, named entity recognition, frequency distribution, term frequency-inverse document frequency.

## TECHNICAL SKILLS

**Skill Sets:** System Programming, Debugging, Full-Stack Web Development, Multi-threading, Serverless Computing

**Programming Languages:** C, C++, Python, Shell Script, Java, Javascript, Node.js, Golang

**Tools & Technologies:** Git, Docker, Socket.io, MySQL, MongoDB, Vue.js, MVC, Nginx, AWS, Visual Studio, Compiler tools (Lex and Yacc)

## HONORS & AWARDS

- Collaboration Excellence Award** for exceptional collaboration across 5 cross-functional teams to release TallyPrime on AWS. May 2022
- Star of the Quarter** for 1.3x times performance improvement of TallyPrime on AWS. Apr 2022
- Rising Star Award** for excellent contributions in the system layer in reducing TallyPrime software launch time by ~40%. Apr 2021
- Rookie of the Year**, Tally Solutions Pvt. Ltd., for quick learning and execution capabilities among a batch of 50 new joiners. Apr 2020
- Inspiration Award**, Smart India Hackathon 2018, for innovative online data dissemination web application, among 1000+ participants. Mar 2018