

## Sourab Bavikatte Ravi

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### ACADEMIC QUALIFICATION

**Dayananda Sagar College of Engineering (DSCE), Bengaluru**

*Aug '15 – May '19*

Bachelor of Engineering in Information Science & Engineering, CGPA: 9.37/10

### TECHNICAL SKILLS

- Languages: C, C++, Python, Go Lang, JavaScript, Shell Script
- Web Technologies: Node.js, Express, Vue.js
- Database: Mongo DB, MySQL
- Tools and Frameworks: Git, Socket.io, Docker, Nginx, NLTK, PyTorch

### PROFESSIONAL EXPERIENCE

**Tally Solutions Private Limited, Bengaluru**

*Jul '19 – Present*

**Software Development Engineer 2**

*Apr '21 – Present*

- Optimized Thread-Pooling in the 'TallyGateway Server' for efficient execution of network events, scheduled tasks, and service requests.
- Introduced caching mechanisms and dependency accumulation to reduce IO reads from DB, expected to significantly increase the performance of the product (TallyPrime 3.0).
- Currently working on building a containerized solution to run windows applications on a cloud virtual machine over the Wine environment.
- *Impact Group Award for exceptional work in the core engine and system layer towards TallyPrime Release 1.0 product delivery (Jun '21)*
- *Rising Star Award for excellent contributions in the system layer (Apr '21)*

**Software Development Engineer 1**

*Feb '20 – Mar '21*

- Optimized memory manager to prevent internal fragmentation by creating memory pools of aligned block size; decreased external fragmentation for variable block size pools by coalescing adjacent de-allocated blocks, resulting in ~20% reduction of run-time memory.
- Designed and developed 'Conditional Compilation Framework' for in-house language of Tally, by working on language parser and interpreter to facilitate trunk-based development.
- Introduced 'File Browser' in TallyPrime product using WinAPIs, enabling directory, file selection, and navigation for the user.
- *Awesome Squad Award for exceptional collaboration, perseverance, and resilience shown on the delivery of TallyPrime 1.0 (Jan '21)*
- *Rookie of the Year for execution capabilities and conditional compilation framework (Apr '20)*

**Software Development Engineer Trainee**

*Jul '19 – Jan '20*

- Debugged existing code base to understand concepts of 'Principles of Computing' such as OS and application-level caching mechanisms, memory management, file and network I/O, object-oriented database, concurrency and parallelism, thread pools and message loops.
- Designed context-free left recursive grammar for parsing 'Path as a Datatype' using lex and yacc tools.

### INTERNSHIP

**Software Developer Intern, SkillMithra Incorporation, Bengaluru**

*Dec '17 – Jun '19*

- Designed and developed a containerized code execution platform (CodeWork) using Node.js, Express framework, Mongo DB, Vue.js, and Docker in which users can solve coding problems using several programming languages.
- Developed a job listing aggregator (Job Finder) that scrapes job listings from various websites and displays them on a single platform.
- Handled user authentication, website hosting, and load balancing using tools such as Google OAuth2.0, PM2, Nginx, Docker, and Docker Swarm.

## ACADEMIC PROJECTS

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- **Forensic Sketch to Face Image Transformation** *Jan'19 – Apr'19*  
Did literature survey of all forms of prospective 'Media Regeneration Application using Neural Networks' and prototyped with multiple neural network architectures. Implemented Cycle-GAN algorithm using Python and PyTorch and trained the model on a diverse dataset to transform forensic sketches to face images and vice-versa, which has use-cases in both forensics and art. Deployed an interactive web application.
- **CV Builder** *May'18 – Jun'18*  
Created a web application using Node.js, Express, Mongo DB, and Vue.js for building curriculum vitae or resume and exporting in pdf or doc formats with two user roles: Student and Admin. The admin user can review and edit the profile of any student. Used Google OAuth2.0 for authentication.
- **Text Summarizer** *Oct'17 – Nov'17*  
Designed an algorithm for summarizing text by calculating the rank of a sentence by scoring the nouns being referenced as pronouns in other sentences. Utilized Python and natural language processing techniques such as POS tagging, stemming, named entity recognition, frequency distribution, and term frequency-inverse document frequency.

## PUBLICATION

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- [1] N. Tonthanahal, S. BR, and S. Christa, "Forensic Sketch-to-Face Image Transformation Using CycleGAN", International Research Journal of Engineering and Technology (IRJET), vol. 8, no. 7, pp. 3718–3722, 2021.

## CERTIFICATIONS

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- Go: The Complete Developer's Guide (GoLang) – Udemy (May'21)
- Advanced C++ – Udemy (Nov'20)
- Git Intermediate Techniques – LinkedIn (Aug'20)
- Bash Scripting and Shell programming – Udemy (Jul'20)
- Machine Learning – Coursera (Jul'17)

## OTHER AWARDS

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- Runners Up at CodeFury Hackathon organized by University Visvesvaraya College of Engineering; Developed a women safety web application project (Sep'18)
- Inspiration Award at Smart India Hackathon organized by Govt of India; Developed a web application for online data dissemination and dynamic costing of statistical and survey data for the Ministry of Statistics (Mar'18)

## LEADERSHIP & ADDITIONAL ACTIVITIES

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- Trained new members of engineering team on 'Efficient Debugging Techniques' (Nov'20) and 'Version Control Systems' and, 'Memory Management' (Oct'21), Tally Solutions Private Limited, Bengaluru
- Delivered a tech talk on 'Demystifying Dependency Framework' at Tally Solutions Pvt Ltd, Bengaluru (Aug'21)
- Technical Head, Department of Information Science and Engineering, DSCE, Bengaluru (Aug'17 – May'19); Developed intra-departmental applications (real time project selection portal using sockets, document sharing over intranet)
- Co-organized inter-college hackathons, 'Hackman 2018' and 'Hackman 2019' at DSCE, Bengaluru
- Attended Python Conference at PyCon India, Hyderabad and Chennai (Oct'18 and Oct'19)
- Runner-up in singles and doubles category of badminton tournament hosted by DSCE, Bengaluru (Jan'19)
- Participated in "Tally's Let's do our bit" initiative for children education; Donated books and stationaries to NGO, prepared grammar worksheets, and taught basic programming (Jan'21)

## LANGUAGES

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- English - Fluent
- Hindi - Fluent
- Kannada - Native