SOURAB BAVIKATTE RAVI

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EDUCATION

University of Southern California, Los Angeles AUG 2022–MAY 2024
Master of Science - Computer Science

Visvesvaraya Technological University, India AUG 2015–MAY 2019
Bachelor of Engineering - Information Science and Engineering GPA: 9.37

WORK EXPERIENCE

TALLY SOLUTIONS PRIVATE LIMITED, India JUL 2019–JUL 2022

Software Development Engineer 2 - *Python, Shell Script, Linux, Docker, Virtualization, Cloud, AWS*
- Devised a secure and scalable containerized software as a service solution to run windows applications over the Wine environment on a cloud linux VM, utilized by over 10000 users.
- Introduced real-time folder permissions sharing with almost 0 latency using access control list, thereby giving control over user data to users.
- Improved product performance by optimizing open-source implementations of Wine windows system APIs, achieving 2x speed up.
- Performed root cause analysis and addressed over 30 complex issues in components such as data migration, VM provisioning, container startup, security permissions, lambda functions, and code pipeline.

Software Development Engineer 1 - *C, C++, Visual Studio, Compiler tools*
- Implemented caching mechanisms and dependency accumulation to lower IO reads from DB, decreasing application startup time by ~40%.
- Reduced external fragmentation in application memory manager by introducing a 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 computing power.
- Maintained, reviewed code changes, debugged, and resolved over 60 issues in 3 key areas: memory manager, parser, and application cache.

SKILLMITHRA LLP, India JAN 2018–JUL 2019

Full-Stack Web Developer Intern - *Javascript, Node.js, Express.js, Vue.js, MongoDB*
- 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, and exportable in 2 formats: pdf and doc. Consumed by over 2000 users.
- Collaborated and led a team of 4 junior interns to design platform architecture, APIs, and cross-domain user authentication.

PROJECTS

Object Oriented Database - *C++, System APIs* OCT 2019
- Designed a general-purpose multi-platform (windows and linux) object-oriented database in C++ with 64-bit field indexing, custom serialization, and de-serialization logic to store any C++ class objects.
- Implemented data validation and security employing the CRC-32 and 128-bit key AES encryption algorithms.

Image Transformation using Generative Adversarial Style Transfer - *Python, PyTorch* APR 2019
- Performed literature survey on 2 image-to-image translation algorithms: CycleGAN and Pix2Pix GAN.
- Trained a Deep Learning model with 6000+ images leveraging the CycleGAN algorithm by tuning parameters to transform forensic sketches into realistic-looking human face images.

Text Summarizer - *Python, NLTK* FEB 2018
- Designed an algorithm for summarizing text utilizing 5 different natural language processing techniques such as POS tagging, stemming, named entity recognition, frequency distribution, and 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, Golang
Web Development: Node.js, Vue.js, JQuery, HTML, CSS, Nginx
Others: Git, Docker, MySQL, MongoDB, AWS, Visual Studio, Lex, 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 2x times performance improvement of TallyPrime on AWS. APR 2022
- **Rising Star Award** for contributions to system layer in simplifying 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 data dissemination web application, competed against 1000+ participants. MAR 2018

LEADERSHIP & INVOLVEMENT

- Instructed a team of 60 new hires on principles of computing and effective debugging techniques at Tally Solutions Private Limited.
- Acted as the Technical Head of the Information Science department at DSCE for 2 years, maintained intra-departmental applications, and co-organized inter-college hackathons and technical events.