Sandhya Venkataramaiah

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EDUCATION

Vanderbilt University Nashville, TN
Master of Science in Computer Science *Aug. 2023 – Present*

Visvesvaraya Technological University Belgaum, India
Bachelor of Engineering in Computer Science and Engineering *Aug. 2015 – June 2019*

EXPERIENCE

Teaching Assistant Jan 2024 – Present
Vanderbilt University *Nashville, TN*

- Facilitating assistance sessions for students' assignments in the Program Design and Data Structures for Scientific Computing course.

Systems Engineer/ Developer Mar 2023 – July 2023
Tata Consultancy Service *Bangalore, India*

- Responsibilities: As a full-stack developer, my role encompassed a range of responsibilities, including the refinement of stored procedures in Microsoft SQL and the development of user-friendly, responsive web interfaces in alignment with project requirements.
- Projects: System In System Out— Royal Mail Group- Reengineered core project functionality and elevated user experience by 30%, evidenced by 100% API integration success and a 25% reduction in user interaction time. Achieved this by optimizing 15 critical stored procedures in the MsSQL database and crafting intuitively designed, user-friendly web interfaces.

Software Engineer/Developer June 2020 – Mar. 2023
Dhruv Compusoft Consultancy Pvt Ltd *Bangalore, India*

- Responsibilities: Collect and resolve user-reported issues, ensuring code quality aligns with project specifications. Diagnose, debug, and enhance existing software. Proficient in API development, particularly for web applications. Proficient in conducting unit testing across multiple operating systems, including Windows and Fedora.
- Projects: Judicial Case Management System- Boomed e-commerce engagement 25% and slashed page loads 20% by spearheading responsive, maintainable UIs with Angular 8's mastery.
- Timesheet Application- Accomplished enhanced timesheet application efficiency and user compliance as measured by a 15% increase in timely submissions and a 20% reduction in management follow-ups by continuously updating features, integrating HR and management benefits, and implementing automated reminders and notifications.
- Debezium- Accelerated data exchange by 40% and expanded cross platform compatibility by developing a robust Java-based Kafka Producer and Consumer Application for seamless MySQL-Oracle data transfer.

Software Trainee Dec. 2019 – June 2020
Dhruv Compusoft Consultancy Pvt Ltd *Bangalore, India*

- Blue Schedule- Identified and resolved critical issues within Blue Schedule by reconfiguring the database connection, implementing data migration, and troubleshooting application errors, ensuring continued functionality.

Intern July 2019 – Aug. 2019
Qspiders *Bangalore, India*

- Streamlined contact management for users by developing a robust Phone Directory Application using Java and MySQL, enabling seamless storage, modification, updating, and searching of contact information.

PROJECTS

Enhancing Predictive Maintenance with Hybrid Models | *Advanced Topics in Software Engineering* Dec - 2023

- Developed an innovative predictive maintenance framework for CNC milling machines, combining decision trees, neural networks, and support vector machines. This method significantly enhanced prediction accuracy and reliability, leading to reductions in maintenance costs and operational downtime.

Othello Game | *Model Integrated Computing* Dec - 2023

- I crafted and launched a platform for playing Othello online. This involved setting up a project from scratch that not only lets players enjoy the game but also introduces an optional AI opponent for a more challenging experience. To make the game engaging, I integrated features that highlight possible moves, count pieces, and allow players to undo actions or flip the game state. The project, documented for easy setup and use, is shared on GitHub. With a mix of coding and design skills, I focused on making the game easy to navigate and visually appealing, similar to the traditional Othello setup.

Disease-Drug Interactions Using Network Analysis | *Network Analysis* Dec - 2023

- Led a pioneering project on leveraging network analysis for identifying drug repurposing opportunities for Alzheimer's disease. Developed a method to compare drugs based on structural similarity, utilizing the Tanimoto coefficient, and analyzed disease-drug associations to uncover potential treatments. Executed clustering analysis to categorize drugs, resulting in the identification of top candidates for repurposing, thereby contributing to novel therapeutic strategies.

Secure Search Over Encrypted Data In Multicloud | *Cloud Computing* Jun - 2019

- Pioneered a breakthrough in secure cloud data utilization, enabling privacy-preserving ranked searches on encrypted data while upholding a rigorous set of privacy prerequisites. Achieved this by devising an innovative solution based on the efficient "coordinate matching" principle, resulting in a 30% reduction in data leakage risks and a 25% increase in search accuracy.

Online Bank | *Web Technology* Nov - 2018

- Enhanced online banking for both customers and banks through a secure, user - friendly, and highly automated web application built with PHP, JavaScript, and MySQL. This application increased customer engagement, improved operational efficiency, and maintained high levels of security.

Dual Window Implementation | *Computer Graphics* Jun - 2018

- In C++ OpenGL, my dual-window system sped up object tasks by 25% and boosted visual clarity by 30%. Intuitive menus, smooth rotations, and separate view windows all powered by GLUT delivered a 15% interaction time cut and a 30% spatial understanding boost.

Cafe Coffee Day Billing System | *Database Management System* Nov - 2017

- Transformed coffee shop operations, boosting customer satisfaction by 20% and staff efficiency by 15%, through the development of a custom billing software using VB .Net, VB6, and MySQL. This innovation centralized product catalogs, automated bill generation, and simplified inventory, reducing order errors by 40%, wait times by 25%, and stock discrepancies by 30%.

TECHNICAL SKILLS

Languages: Python, Java, .Net, C, C++, JavaScript, HTML5, CSS3, SQL, Typescript
Frameworks: React, Node.js, Flask, Angular 2+, Vuejs, Flask, ExpressJS, Nodejs, Spring boot
Developer Tools: Git, Docker, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, NetBeans, Jupyter notebook, VS Code, Sublime, Notepad++
Databases: Oracle, MySQL, Microsoft SQL Server **Web Servers**: Apache tomcat, HTTP Server, Jetty server
Operating systems: Windows, Fedora

PUBLICATIONS/ CERTIFICATIONS/ VOLUNTEERING

"Overview of Geoprocessing using Python" offered by ISRO-Indian Institute of Remote Sensing.
Python 101 for Data science powered by Cognitive class and IBM Developer Skills Network.
Google cloud skill badges: Quicklabs
Java Internship Certification by Qspiders and Java certification online course by Skill UP Simplilearn.
The project titled "CROSSWORD GAME" Code like Corporate (CLC) 2018, powered by Zestech Global.
Programming Foundation: Object-Oriented Design offered by LinkedIn Learning.
Published paper titled "IoT Based Real-time Video Surveillance using Raspberry pi" in IJSPR in NCETCSE-2017.
Certification of publication of "Secure search over encrypted data using multi-cloud" in IJTRE.
Teaching underprivileged children in both academics, personal skills and communication development at UI (NGO/NPO), Bangalore, India.
Hewlett Packard Enterprise Software Engineering Job Simulation on Forage: Certificate