

# NAMRATA BALWANI

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## EDUCATION

### Stony Brook University

Aug 2022 - May 2024

*Master of Science in Computer Engineering - GPA: 3.72/4.00*

*Stony Brook, New York*

**Coursework:** Distributed Systems, Operating Systems, Computational Models, Digital Image Processing

### Vishwakarma Institute of Technology

Jul 2014 - May 2018

*Bachelor of Engineering in Computer Science and Engineering - GPA: 3.77/4.00*

*Pune, India*

**Coursework:** Database Systems, Data Structures, Computer Networks, Artificial Intelligence, Machine Learning

## TECHNICAL SKILLS

**Languages:** Java, JavaScript, Python, C, C++, SQL, C#, Vb.NET, TypeScript, HTML, CSS

**Database and Build Tools:** MySQL, Oracle DB, MS SQL, PostgreSQL, SQLite, MongoDB, Maven, Gradle

**Technologies/Frameworks:** .NET Framework, Entity Framework, Node.js, Restful API, Spring Boot, JPA, Hibernate, React.js, Angular, Node.js, Flask, Redux

**Cloud:** AWS (Amazon Web Services), Microsoft Azure, GCP (Google Cloud Platform)

## WORK EXPERIENCE

### Emerson Automation Solutions

July 2018 - May 2022

*Software Engineer*

*Pune, India*

- Engineered Emerson's Syncade MES – flagship product widely deployed within the Bio-pharma industry to generate the manufacturing batch reports and is used by 20+ clients
- Designed and developed an intuitive "BOM (Bill of Materials) Editor" tool optimizing 25+ database tables, streamlining backend logic, achieving 70% faster report generation, and improving error identification accuracy by 90%
- Spearheaded the process of building WiX installers of 40+ applications, automating it and reducing manual efforts of 25 hours on each application
- Built a "Tracking Product" to keep track of technical and functional limitations of the project by using C#.NET, MVC, Entity Framework and MySQL which is currently utilized by 4 teams working on projects worth \$10M
- Modelled RESTful APIs, SOAP Web Services for Integration with 3rd party systems such as DeltaV and OSI Pi
- Revamped the UI of the "Doc Generator" by leveraging Metro framework, resulting in a substantial 40% increase in overall user experience

### Wisdm Labs

Aug 2017 - Dec 2017

*Web Development Intern*

*Pune, India*

- Successfully customized a "Customer-Variable-Pricing" plugin to integrate differential pricing for products on the company website, resulting in a 20% increase in quote personalization and a 15% rise in customer engagement
- Developed a "Product-Enquiry-Pro" plugin for the WooCommerce platform to generate quotes and enquiries, which is currently used by 3.5K+ customers

### Stony Brook University

Jan 2023 - May 2023

*Graduate Teaching Assistant*

*Stony Brook, NY, USA*

- Served as a Teaching Assistant for ESE 344 (Software Techniques for Engineers) under Prof. Murali Subbarao
- Engaged in proctoring, conducting office hours, grading assignments, designing course materials, and addressing queries.

## PROJECTS & PUBLICATIONS

### Comparing Mallocs | Python, Linux, Shell, Valgrind, Perf

[Link](#)

- Evaluated multiple memory allocators using 5 carefully selected benchmarks to measure memory usage, fragmentation, and latency metrics for each allocator under various workloads and configurations
- Leveraged hardware performance monitoring tools, such as Valgrind and Linux perf, to gather extensive statistics by capturing 90% of cache misses and memory heaps, enabling an assessment on each allocator's efficiency and performance
- Employed flame graphs to visualise the results which enabled us to spot various performance bottlenecks for the allocators

### Potholes Elimination (IIT Alumni Association) | Java, Kotlin, Firebase, MLKit

[Link](#)

- Developed a mobile application for users to submit complaints about potholes and utilised Google Map API to capture the precise location using device's location
- Created a separate mobile application for the government to efficiently detect & manage potholes reported by users
- Utilized MLKit for advanced image processing, leading to 30% faster pothole detection and 80% accurate severity classification.
- Employed Firebase Cloud Messaging to send real-time notifications to users regarding the status of their complaints