Harsh Suvarna |Software Developer
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Academic Qualification

University of Glasgow, MSc. Information Technology, Sep 2023-present
- **Result:** Distinction (predicted)
- **Relevant Coursework:** Software Development, Internet Technology, Advance Programming, Algorithms and Data Structures, Information Visualization

Mumbai University, B.Eng. Instrumentation, July 2017-Aug 2021
- **Result:** First-class Honours
- **Relevant Coursework:** Structured Programming Approach, Database Management Systems, Object Oriented Programming

Technical Skills

JavaScript, Typescript, HTML, CSS, React, Svelte, NodeJS, ExpressJS, NestJS, Docker, MySQL, PostgreSQL, MongoDB, Git, AWS (Lambda, S3, ECS, EC2, Cognito), Python, Java, GitHub workflows, Jira.

Professional Experience

Software Engineering – Code B Solutions (Full time)   Aug 2022-July 2023
- Developed **full-stack applications** using React, Svelte, ExpressJs, NestJs, Fast API, MongoDB, and MySQL with over **50 fields**, catering to clients from the UK and the US
- Developed a feature which facilitated users to answers the questions displayed on the presenter's screen, using their hand-held devices and display the answers on the presenter screen, in real time, using **Web Socket Technology**. This application could handle more than **500 users per socket room**.
- Developed **CLI application** using Open CLI Framework which enabled B2B clients to push their HTML file to customize their view of the application according to their organization's theme. Used **AWS** Lambda to trigger scripts on push command, which would store the code in S3.
- Leveraged Puppeteer for crafting **web automation scripts** and **web scraping** tools for a media house, facilitating a **deeper comprehension** of their audience through the **harvested data**. Acting on this data resulted in a noteworthy **30% surge in viewership** and a substantial **17% boost in revenue** within a span of 2 months, as reported by the organization.

Analyst – Ernst & Young (Full time - Hybrid)   Jul 2021- Jan 2022
- Performed **concurrent audits on Banking products** encompassing RTGS, NEFT, cash clearing and Demand drafts, which **contributed** to bringing a systematic and disciplined approach to **financial data processing** and identifying the loopholes in the branch banking process. **1500** RTGS and NEFT **transactions** per branch were audited on average, monthly.
- Achieved a **60% reduction in audit time** by extensively utilising **EY Digicube**, streamlining financial data, and automating critical processes.
- Conducted both **planned and surprise audits** of bank branches across diverse locations, including Mumbai, Delhi, Bengaluru, and Pune.
- Highlighted **critical changes** needed to be **implemented**, resulting from a bank branch audit, introducing the practice of storing welcome kits in fireproof locked cabinets instead of unlocked wooden cupboards. This initiative, **based on my findings**, was adopted in all branches **nationwide**.

Projects

Butik
- Developed full-stack web application using React, Fast API, MySQL to allow users to discover and browse local stores' products, encouraging brick-and-mortar shopping.
- Implemented OTP-based login for enhanced security compared to password-only authentication.
- This application has the potential to enhance the visibility of small businesses, thereby contributing to an increase in the revenue of the stores.
  Frontend-repository Backend-repository Demo

Automatic Car Parking using Model Predictive Control Action:
- Developed object-oriented Python application to automatically generate efficient parking paths using model predictive control action.
- Created functionality to manoeuvre around obstacles and output required acceleration/velocity for self-driving vehicles.
- Simulated vehicle dynamics and parking lot simulation using Matplotlib to test and validate parking trajectories.
- Emphasized computational efficiency and safety in design to allow real-time embedded usage.
  GitHub

Achievements

- Earned the **EY "I am Exceptional" award** for displaying outstanding and innovative intellectual contributions.
- Created mathematical model and simulation of heat dissipation systems and solar tracker using MATLAB which contributed to propelling the team into top five **finalists** in the **Solar Decathlon India** 2020-2021, for building resilient shelters, competing against over 100 teams nationwide.