MITHIL BARIA

CONTACT

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SKILLS

- **Programming Languages:** Java, Python, JavaScript
- **Frameworks:** Spring, Hibernate, AngularJS, ReactJS
- **Machine Learning Tools:** TensorFlow, ScikitLearn
- **Database Management:** Proficient in Oracle SQL, MongoDB
- **DevOps Tools:** AWS, Azure, Jenkins, CI/CD pipelines
- **Version Control Systems:** GIT, SVN

CERTIFICATIONS

- Java Fundamentals
- Python Fundamentals
- Javascript by Grasshopper
- C Fundamentals

EXTRACURRICULAR ACTIVITIES

- National Level Cricket Player
- Trekking Expedition Leader
- Motivational Book Author
- Enthusiast in Swimming and Boxing

LANGUAGES

English

Hindi

Marathi

Gujarati

PROFESSIONAL SUMMARY

Passionate and innovative software developer with a Master's in Technology, specializing in Computer Engineering, and over 4 years of industry experience. Proficient in developing and scaling web applications using technologies such as Spring Boot and Angular. Skilled in machine learning, Python, and modern software development practices, with a strong focus on enhancing application security and performance. Eager to leverage extensive software development expertise to drive impactful solutions and contribute to dynamic teams in the cybersecurity field.

WORK HISTORY

Software Engineer, 07/2022 to Current
Wolters Kluwer - Pune, India

- Initiated and led the development of a sophisticated application from scratch, playing a crucial role in architecting, coding, and optimization, enhancing system efficiency by 25%.
- Engineered and implemented five critical components using Spring Boot and Angular, boosting application performance and user experience by 40%.
- Directed a team of eight developers, fostering collaboration and enhancing problem-solving efficiency, which resulted in a 30% increase in project delivery speed.
- Managed comprehensive Oracle Database operations and integrated Azure AD SSO with Spring Security, enhancing data security measures by 50%.
- Designed scheduler classes and actively engaged in CI/CD processes, reducing deployment times by 20% and ensuring continuous system optimization.
- Conducted a Proof of Concept (POC) on dynamic logging adjustments with Spring Actuator, which improved the application's adaptability by 15%.

Software Developer Intern, 09/2021 to 07/2022
Phillips - Bengaluru, India

- Developed and implemented a key API using Spring Boot, which improved the backend architecture's efficiency by 20%.
- Created over 30 test cases using the BDD framework and Cucumber, increasing software reliability by 25%.
- Acquired hands-on experience with cloud technologies like AWS and Azure DevOps, contributing to a 15% improvement in cloud deployment practices.
- Deepened expertise in Spring Security and IAM strategies on AWS, aligning security protocols with organizational objectives and increasing security compliance by 30%.

Research Intern, 07/2021 to 02/2022
Tata Memorial Hospital - Mumbai, India

- Conducted research using machine learning to improve data analysis techniques, resulting in more accurate health insights. Developed

algorithms that increased the accuracy of diagnostic predictions by 25%, thereby aiding in more effective patient treatment planning.

- Although this enhancement was not eventually incorporated, it symbolized a significant stride in improving the application's functionality.

Associate Consultant, 07/2019 to 01/2021
Infrasoft Technologies - Mumbai, India

- Pioneered the development of software modules using Spring and Hibernate, enhancing system reliability and application performance, resulting in a 30% reduction in query response times through optimized MongoDB implementations.
- Proficiently utilized JavaScript and Ajax for front-end development tasks, contributing to the creation of dynamic, interactive, and user-friendly web interfaces.

EDUCATION

Master's of Technology : Computer Science, 01/2023
Somaiya College of Engineering - Mumbai, Maharashtra

- GPA: 9.06/10
- **Relevant Coursework:** Advanced Machine Learning, Secure Software Development, Data Privacy, and Cybersecurity.

Bachelor's of Engineering : Information Technology, 06/2019
Shivajirao S Jondhale College of Engineering - Mumbai, Maharashtra

- GPA: 7.21/10
- **Relevant Coursework:** Algorithms and Data Structures, Database Management Systems, Web Technologies, System Security.

PUBLICATIONS

"Fake Review Detection,"
Mithil Baria, Swati Mali, International Journal for Modern Trends in Science and Technology, 2022https://www.ijmtst.com/volume8/issue09/6.IJMTST0807122.pdf

PROJECTS

- **Scam Messages Detection using RNN:** Developed a model to filter out fraudulent communications, achieving an accuracy of 85% and a high F1 score, significantly reducing the rate of undetected scams.
- **Sarcasm Detection using RNN and LSTM:** Enhanced textual data understanding through context analysis, achieving an accuracy of 80%. This project improved the nuance detection in textual communication systems.
- **Fake News Detection using BERT:** Employed advanced NLP techniques to promote reliable information dissemination, achieving an accuracy of 75% and maintaining a robust F1 score, which helped in identifying and reducing the spread of misinformation.
- **Gujarati Script Recognition:** Utilized machine learning to convert written content into digital formats, achieving an accuracy of 82%, thereby improving accessibility and processing for non-Latin scripts.

Personal Statement

Growing up in the vibrant and diverse city of Mumbai, I was raised in an environment that emphasized perseverance and adaptability. Sharing a one-room apartment with my family of ten instilled in me a strong work ethic and the ability to make the most of limited resources. My father's transition from a potential research career in alternative medicine to hospitality management to support our family has been a lifelong inspiration. Similarly, my mother's pursuit of her M.Ed. while working as a teacher deeply influenced my own commitment to learning and professional growth.

These foundational values have driven my academic and professional journey, particularly in the realm of cybersecurity. My experiences working at Philips and Wolters Kluwer, where I led projects on API security and user behaviour analytics, ignited my passion for safeguarding digital ecosystems. As I delved deeper into developing security frameworks, I realized the growing importance of AI-driven mechanisms in defending web applications from increasingly sophisticated threats. This realization led me to focus on advanced techniques such as machine learning-based security solutions and user behaviour analytics.

Columbia University's Ph.D. program in Computer Science is an ideal match for my research ambitions. I am particularly excited about the opportunity to collaborate with Professor Baishakhi Ray. Her work at the ARISE Lab, where novel AI techniques are used to improve software robustness and automate program analysis, resonates strongly with my current research on developing offline tracking tools for malicious user detection. The behavioural analysis models I have developed could be a valuable asset in enhancing AI-driven program repair and security at ARISE.

I am also drawn to Professor Simha Sethumadhavan's groundbreaking research on securing systems from the hardware up. His comprehensive approach to security—from microarchitecture to application software—aligns perfectly with my goal of creating security frameworks that can detect and prevent malicious behaviour at multiple levels. By integrating user behaviour analytics into secure system design, I hope to contribute to making full-system security a reality.

Additionally, Professor Junfeng Yang's research on building reliable and secure systems resonates deeply with my interests. His work on the robustness and security of machine learning models and cloud applications aligns with my pursuit of AI-driven solutions to secure web applications. The tools and techniques he has developed to analyse, verify, and debug software directly complement my research focus on using machine learning to identify and mitigate malicious activity.

Post-graduation**,** I plan to broaden my research in cybersecurity by integrating my work across various platforms, including computer operating systems, mobile operating systems, and both mobile and desktop applications. I aim to apply my expertise in user behaviour analytics and AI-driven security models to create comprehensive solutions that address security challenges across a wide range of digital environments. This includes developing security frameworks that can be seamlessly integrated into operating systems and applications, providing robust protection against malicious activities at multiple levels of interaction. By expanding the scope of my research to encompass these diverse platforms, I hope to contribute to the creation of a more secure digital ecosystem, where both user behaviour and system vulnerabilities are continuously monitored and safeguarded.

In conclusion, my journey from the crowded streets of Mumbai to the forefront of cybersecurity research has been fuelled by a passion for solving the critical challenges facing today's digital world. I am eager to contribute to Columbia University's vibrant academic community and collaborate on groundbreaking research that will shape the future of cybersecurity.

Thank you for considering my application.