ARNAV MAHAPATRA

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MS graduate with 3 years of experience as a Full-Stack Engineer, specializing in Object Oriented Programming using Java with Spring Boot and REST API backends, complemented by expertise in ReactJS and Angular frontends. Proven ability to deliver robust solutions and drive project success. Seeking a dynamic role as a Software Engineer to further contribute and innovate.

TECHNICAL SKILLS

- **Languages –** Java, Python, SQL, R, MATLAB | UI - HTML, CSS, JavaScript, TypeScript.
- **Libraries & Frameworks –** Spring Boot, REST API, Microservices, ReactJS, Angular, Node.js, Express.js, Flask, Spring Security, Apache Kafka, Android Studio, PostgreSQL, Oracle SQL Developer, MongoDB, Hibernate, JPA, JDBC, Elasticsearch, LLMs, Google Search API, JSP, JSTL, jQuery, Servlets, Bootstrap, Streamlit, Selenium, JUnit, CI/CD on AWS, Jenkins, Ansible, GitHub Actions, Kubernetes, Docker.
- **Other –** MS Office, Visual Studio Code, IntelliJ IDEA, Eclipse, NetBeans, Maven, Git, GitHub, SVN, Hugging Face, Tomcat, JBoss, JIRA.
- **OS –** Windows, Linux.
- **Cloud –** AWS, GCP.

EDUCATION

Master's in Engineering Science | January 2024
University at Buffalo, The State University of New York, United States of America

- **Coursework:** Introduction to Probability Theory for Data Science, Introduction to Numerical Mathematics for Computing and Data Scientists, Programming and Database Fundamentals for Data Scientists, Statistical Learning and Data Mining I, Statistical Learning and Data Mining II, Introduction to Machine Learning, Data Models Query Language, Computer Vision and Image Processing, Applications of Data Science.

Bachelor of Engineering in Computer Engineering | July 2019
Don Bosco Institute of Technology, Mumbai University, India

- **Coursework:** Data Structures, Object Oriented Programming, Analysis of Algorithms, Database Management Systems, Distributed Databases, Machine Learning, Artificial Intelligence, Data Mining, Image Processing, Computer Graphics, Cloud Computing, Computer Organization and Architecture, Operating Systems, Computer Networks and Network Programming, Network Threats and Attacks, Cryptography and System Security, Mobile Communication and Computing, Business Communication and Ethics.

PROFESSIONAL EXPERIENCE

Data Scientist Intern | May 2023 – August 2023
AI Camp Incorporated, Palo Alto, California, United States of America

- Developed a portfolio of websites for hosting text generation projects, skillfully utilizing Python and Flask for backend infrastructure.
- Utilized Bootstrap templates, HTML, CSS, and JavaScript to craft user-friendly front-end interfaces boosting overall user experience.
- Acquired proficiency in Large Language Models (LLMs) through LangChain and Haystack frameworks, expanding skill set to include advanced Natural Language Processing (NLP) techniques.
- Leveraged Python's Beautiful Soup and Selenium for data scraping, improving data collection and analysis capabilities, and demonstrating web-based data retrieval expertise.
- Mentored high school students, simplifying and explaining complex concepts in Python, Flask, and related technologies, thus nurturing a new generation of software developers.

Java Full-Stack Engineer | July 2019 – May 2022
NSEIT Limited, Mumbai, Maharashtra, India

- Mastered back-end development with a focus on Java, leveraging capabilities of Spring Boot framework and REST API to construct robust web applications tailored for online examinations.
- Designed intuitive, lightweight single-page applications using ReactJS and Angular frameworks with HTML, CSS, JavaScript, and TypeScript to deliver clean and concise user interfaces.

- Leveraged Python libraries and frameworks with a focus on automation, data analysis, and system integration to develop efficient solutions.
- Acquired in-depth SQL expertise by managing large databases on PostgreSQL and Oracle SQL Developer platforms, optimizing CRUD operations and queries for efficient data retrieval and manipulation.
- Implemented Test-Driven Development (TDD) methodology by applying the JUnit framework to craft robust unit tests with over 80% code coverage, ensuring high-quality code across multiple projects.
- Designed and implemented a robust CI/CD pipeline on AWS infrastructure, integrating Jenkins, Ansible, and Docker to automate software delivery processes and improve development efficiency.
- Employed Agile principles and Scrum framework within JIRA, orchestrating sprint planning, backlog grooming, and sprint reviews to facilitate transparent and efficient project management.
- Communicated technical concepts in simpler terms for non-technical stakeholders, resulting in smoother project execution and enhanced collaboration across cross-functional teams.

PROJECTS
School Contact Scraper | August 2023
- Gathered 100,000+ faculty contacts from over 2,000 high schools across the US using Beautiful Soup, Selenium, and LLMs, boosting company data capabilities and earning a cash prize for project success.
- Leveraged prompt engineering techniques in OpenAI GPT-3.5 Turbo model at $0.0003/contact, integrating with Pinecone as a data source for a chatbot with querying capabilities powered by LLM.
- Built a Streamlit dashboard seamlessly integrating with MongoDB, facilitating informative presentation of web scraping statistics and insights.

Remote Proctored Exams | April 2022
- Architected a Remote Proctoring System on the Spring Boot and ReactJS frameworks, enabling reliable and secure online examinations by confirming candidate identities via webcam verification.
- Implemented object detection algorithms with OpenCV and Python for analyzing webcam feeds during exams to identify unauthorized objects, resulting in a 25% decrease in cheating incidents, thereby ensuring exam integrity.
- Achieved a 15% reduction in query execution time for online examinations by efficient indexing and crafting SQL queries in PostgreSQL, optimizing database performance.

Post-Exam MIS | January 2020
- Conceptualized and implemented a Post-Exam MIS portal using Spring Boot and Angular frameworks, centralizing access to all candidate post-exam reports and streamlining client operations.
- Achieved over 20% reduction in operational costs through strategic consolidation of post-exam data, simplifying data retrieval and enhancing overall operational efficiency for clients.
- Tailored the MIS portal to generate reports based on user preferences, increasing client satisfaction by 30% and driving a 15% increase in repeat business, fostering positive business relationships.

RESEARCH EXPERIENCE
Human Heart Disease Prediction Using Data Mining Techniques | December 2019
IEEE International Conference on Advances in Computing, Communication and Control (ICAC3 19), Mumbai, India
- Spearheaded a research initiative by building a Flask-based web application in Python employing ECG-derived attributes to predict the likelihood of heart disease.
- Investigated and applied four distinct and ubiquitous ML algorithms: KNN, Naïve Bayes, Linear SVM, and RBF SVM, delving into nuances of each for robust predictive modeling.
- Published a comprehensive comparative analysis of applied ML algorithms, evaluating performance metrics such as accuracy, sensitivity, specificity, and kappa coefficient in contribution to the field's knowledge base.

CERTIFICATIONS
- **AWS Certified Cloud Practitioner Issued by AWS | January 2023**
- **IBM Certification in Data Science and AI Issued by Learnvista | December 2022**
- **Android Certification Issued by Monkfox | August 2017**