



ARNAV MAHAPATRA

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MS graduate with over 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. AWS Certified Cloud Practitioner with a proven ability to deliver scalable cloud-based applications.

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 | August 2022 – January 2024

University at Buffalo, The State University of New York, United States of America

Bachelor of Engineering in Computer Engineering | August 2015 – July 2019

Don Bosco Institute of Technology, Mumbai University, India

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 7 distinct text generation models, using Python and Flask for backend infrastructure.
- Utilized Bootstrap templates, HTML, CSS, and JavaScript to craft user-friendly front-end interfaces boosting average session duration by over 10 minutes for users engaging with text generation models.
- Acquired proficiency in Large Language Models (LLMs) through LangChain and Haystack frameworks, expanding skill set to include advanced Natural Language Processing (NLP) techniques.
- Scraped 100,000+ faculty contacts, 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, earning a 9.8/10 average rating from students.

Java Full-Stack Engineer | July 2019 – May 2022

NSEIT Limited, Mumbai, Maharashtra, India

- Mastered back-end development in Java, leveraging Spring Boot framework and REST API to construct robust web applications tailored for online examinations, resulting in a 20% increase in system performance.
- Designed intuitive, lightweight single-page applications utilizing ReactJS and Angular frameworks with HTML, CSS, JavaScript, and TypeScript, driving a 15% increase in user satisfaction.
- Leveraged Python libraries and frameworks focusing on automation, data analysis, and system integration, leading to a 17% increase in efficiency across development processes.
- Acquired SQL expertise by managing large databases on PostgreSQL, optimizing CRUD operations and queries, culminating in a 22% improvement in database performance.
- Implemented Test-Driven Development (TDD) methodology with JUnit to achieve over 80% code coverage, while also employing Agile principles and Scrum in JIRA for efficient project management.
- Designed and deployed a robust CI/CD pipeline on AWS infrastructure, incorporating Jenkins, Ansible, and Docker, achieving over 40% reduction in deployment time.
- 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 utilizing 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 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

- Developed 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 13 ECG-derived attributes to predict the likelihood of heart disease.
- Investigated and applied 4 distinct and ubiquitous ML algorithms: KNN, Naïve Bayes, Linear SVM, and RBF SVM, delving into nuances of each for robust predictive modeling.
- Published a comparative analysis of the 4 algorithms, evaluating them across 4 performance metrics namely 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**