Dhruv Pualsa

+17093417362 St. John's, NL

Email Open Work Permit LinkedIn GitHub

Summary

Over 2 years in full-stack development, with expertise in backend technologies (Java, Spring Boot, Hibernate) and frontend frameworks (React, Angular, TypeScript), well as cloud services (Azure, AWS) and DevOps practices.
Proven ability to design and deliver scalable solutions utilizing CI/CD pipelines, Docker and Jenkins for efficient deployment.

Key Skills

Programming Languages, Frameworks and Libraries: **Java, Python, JavaScript, TypeScript.**
Frameworks, Libraries and Databases: **Spring Boot, Spring Security, Hibernate, React, Angular, JSF, MySQL, PostgreSQL, MongoDB, PL/SQL, MariaDB, Oracle, SQLite.**
DevOps and Automation Tools: **Docker, Jenkins, Maven, Gradle, Git, CI/CD pipelines.**
Testing Tools: **Selenium, JUnit, TestNG, Mockito, Cypress, Postman, Robot Framework.**
Machine Learning and Deep Learning: **PyTorch, TensorFlow, Keras, OpenCV, ResNet-50.**
Game Development and XR: **Unreal Engine, Microsoft HoloLens, Socket.IO, UMG.**
Cloud and Servers: **Apache Tomcat, JBoss, Azure, AWS.**
Project Management and Methodologies: **Agile, Scrum, Confluence, Bitbucket, Git.**

Experience

Software Developer (Co-op)

VacLAB (Mitacs) (May 2023 – Dec 2023)

At VacLab, I developed a flight path visualization XR application in Unreal Engine for Microsoft HoloLens 2. This project involved creating an immersive experience that allowed users to visualize and manipulate flight paths in real time. I implemented a user interface using Unreal Motion Graphics (UMG) and incorporated hand tracking for intuitive path manipulation, greatly enhancing the application's interactivity.

Additionally, I ported the system to be compatible with Avalon Holographic light field display, adapting it to work seamlessly with advanced display technologies. I also implemented cross-platform multi-user state synchronization using Socket IO, enabling real-time collaboration between multiple users across devices.

As part of this project, I also worked on a flight path and crash detection simulation that integrated real-time data, aimed at improving air traffic control efficiency and safety. My role encompassed the design and implementation of the simulation, real-time data integration, and the development of an interactive interface using HoloLens. This experience strengthened my skills in handling complex data systems, designing user interfaces, and developing innovative QA strategies.

Assistant System Engineer

RBC (Offshore) / Tata Consultancy Services (July 2021 – July 2022)

I worked with two teams to ensure software quality. With the first team, I used Robot Framework, ALM, Selenium (headless and Chrome), Visual Studio, Git, and Jenkins. I developed automated test scripts, maintained the test automation framework, and integrated tests into the CI/CD pipeline, enhancing software stability.

In the second team, I utilized JUnit, Postman, ALM, Selenium, Java, and Jenkins. I created and maintained automated test suites for frontend and backend systems, performed API testing with Postman, and integrated these tests into the CI/CD pipeline. My work ensured thorough validation of critical functionalities and contributed to the delivery of high-quality software.

Machine Learning intern

M-intellect Global Pvt. Ltd (June 2019 – August 2019)

Eliminated 95% of data issues in Google Play Store reviews using Python and Pandas, significantly enhancing data quality. Improved model accuracy by 20%, achieving 85% prediction accuracy with Scikit-Learn and TensorFlow, which enabled more effective app marketing strategies. Boosted project outcomes by 30% through collaboration and the application of advanced machine learning techniques. Increased stakeholder understanding by 25% by developing impactful data visualizations, influencing key decision-making processes.

Projects

Spring PetClinic Application – Full Stack Development

Overview: Independently developed a full-stack web application for managing veterinary clinic operations using the Spring framework.

Technologies: Java, Spring Boot, Spring MVC, Spring Data JPA, Hibernate, Thymeleaf, HTML, CSS, JavaScript, MySQL, Maven, Git.

Development:

- Backend: Built RESTful APIs with Spring Boot and Spring MVC; implemented data persistence with Spring Data JPA and Hibernate.
- Database: Designed and managed relational database schemas.
- Frontend: Developed responsive interfaces using Thymeleaf, enhanced with HTML, CSS, and JavaScript.
- Testing: Wrote unit and integration tests using JUnit and Mockito.
- DevOps: Managed builds with Maven (or Gradle) and version control with Git.

Quiz Web Application – Full Stack Development

Overview: Contributed to the development of a full-stack quiz web application, utilizing Express.js and Prisma ORM for data management and session handling.

Technologies: Node.js, Express.js, Prisma, Nunjucks, Passport.js, SQLite, Cypress, JavaScript, HTML, CSS, Git.

Development:

- Backend: Built RESTful APIs with Express.js; implemented data persistence using Prisma ORM.
- Database: Designed and managed relational database schemas using SQLite and Prisma.
- Frontend: Developed server-side rendered pages using Nunjucks, enhanced with HTML and CSS.
- Authentication: Implemented user authentication using Passport.js with session-based login.
- Testing: Wrote end-to-end tests using Cypress for automated testing of user interactions.
- DevOps: Managed version control with Git, and automated testing workflows with Cypress.

Whole Image Cancer Detection Using Patch-Based Approach

Technologies: Python, PyTorch, TensorFlow, Keras, OpenCV, ResNet-50, CBIS-DDSM dataset, Data Augmentation, Jupyter Notebooks, Matplotlib

Description: Developed a machine learning model to detect breast cancer from mammogram images using a patch-based analysis approach. Leveraged the large Curated Breast Imaging Subset from the Digital Database for Screening Mammography (CBIS-DDSM), consisting of thousands of images, and preprocessed them into smaller patches for targeted analysis. Fine-tuned a pre-trained ResNet-50 model to improve detection accuracy. Employed advanced image processing, deep learning techniques, and heatmap generation to visualize model predictions. Ensured model robustness through comprehensive performance evaluation metrics, enhancing diagnostic precision in medical imaging.

Education

MSc. Computer Science – Memorial University of Newfoundland (2022 – 2024)

- 3.68 / 4 CGPA

B.E Computer Engineering – SLRTCE (2017 – 2021)

- 8.34 / 10 CGPA

Certification

- Java Spring Framework 6 with Spring Boot 3
- Spring Framework 5: Beginner to Guru
- Oracle Certified Associate, Java SE 8 Programmer