

Saumil Kulshreshtha

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Education

The NorthCap University <i>B.Tech in Computer Science (CGPA: 9.00)</i>	Expected June 2026 Gurgaon, Haryana
GreenWood Public School <i>Class 10 - 93.4% , Class 12- 80%</i>	2007-2022 Gurgaon, Haryana

Experience

Personal Project <i>Game Developer</i>	April 2022 – June 2022 Gurgaon, Haryana
<ul style="list-style-type: none">• Led a team to develop a game and designed it. Learned to use Python based game engine Ren'Py and started the development.• Provided the game assets and optimised them for the application.• Was responsible for all debugging and code.	
Muskan Engineers <i>Part-time Software Developer</i>	February 2024 - Current Gurgaon, Haryana
<ul style="list-style-type: none">• Lead a team to develop a Inventory Management System.• Used technologies such as Flask, MySQL, HTML, CSS, JavaScript, JQuery, etc.• Aim to reduce the data access time by more than 90 percent.• Give advanced analytical tools to analyse various aspects such as Inventory Turnover Ratio, Cost of Goods Sold (COGS) , etc.	

Projects

Metro Route Predictor <i>Java, JSON, Maven</i>	
<ul style="list-style-type: none">• Developed a sophisticated Metro Route Predictor by modeling metro networks as Graph data structures. Applied advanced pathfinding algorithms like A* to identify optimal routes—shortest, least expensive, and most convenient. Enhanced user experience through a JavaFX frontend.• Led the implementation and refinement of the A* pathfinding algorithm and graph data manipulation, ensuring algorithmic efficiency and reliability.• Achieved code optimization and thorough documentation, adhering to best coding practices to maintain codebase quality and readability.	
ATM Simulation <i>Java, MySQL, JDBC</i>	
<ul style="list-style-type: none">• Engineered a Console-based ATM simulator leveraging MySQL for data storage, featuring distinct Admin and User modes for versatile operation and comprehensive database management skills demonstration.• Directed team efforts, overseeing project planning, task delegation, and deadline adherence, while fostering code quality improvements among team members.	
Ren'Py Based Game <i>Python, Ren'Py</i>	
<ul style="list-style-type: none">• Crafted an engaging game using the Python-based Ren'Py engine, featuring a branching narrative, custom backgrounds, sprites, and text fields, with modifications to the default Ren'Py frontend for a unique player experience.• Managed the game development lifecycle from concept to implementation, including narrative development by the programming team.	
Inventory Management <i>Python, Flask, SQL, HTML, CSS, Bootstrap, Javascript</i>	Ongoing
<ul style="list-style-type: none">• Designed and implemented a highly efficient and normalized database schema based on client requirements, utilizing MySQL. Established a seamless interface between the database and the frontend via Flask, crafting a dynamic and interactive user interface with HTML, CSS, Bootstrap, Javascript, and jQuery.• Coordinated team operations, including task allocation and front/backend development oversight, while managing client communications and requirements to ensure project success and satisfaction.	

Publications

Digital Transformation in the Service Sector: Optimizing Metro Travel Paths Using Graph-Based Algorithms

Vikas Kumar, Saumil Kulshreshtha, Shivesh Kumar Dhiman, Dr. Shilpa Mahajan.

- Explores the impact of digital transformation in the service sector, particularly focusing on optimizing metro travel paths using graph-based algorithms. Discusses the application and efficacy of the A* algorithm in pathfinding across various criteria and its integration with data management tools like Excel and JSON. Highlights the benefits of such algorithms in reducing travel time, transfers, and costs, thereby improving transportation network efficiency and scalability.
- **Expected publication date:** August 2024, **Book Title:** Business Transformation Through Digital Innovation in Service Sector **Publisher:** CRC Press, Taylor and Francis Group, USA

Skills

Programming Languages: Java, Python, SQL, JavaScript

Frameworks/Libraries: Flask, JavaFX, Bootstrap, jQuery

Database Management: MySQL, proficient in designing normalized database schemas, data storage, and retrieval

Web Development: Experienced in developing dynamic and interactive web applications using HTML, CSS, Bootstrap, and JavaScript

Data Analytics: Pandas, Numpy, Matplotlib, Sci-py

Game Development: Familiarity with game development principles and experience using the Ren'Py engine

Software Development Tools: Maven, JDBC, Git, Github, JetBrains IDEs

Project Management: Leadership, team coordination, task delegation, client communication, and adherence to deadlines