

# Abhay Sharma

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## Education

2019 – 2024

### Bachelor of Science - BSc, Computer Science / University of Calgary

Relevant Coursework:

- Algorithms design and analysis, Data Structures, Web-Based Systems, Compiler Construction, Human-Computer Interaction, Data Base Management Systems, Computer Networks, Principles of Operating Systems

## Technical skills

- Programming Languages:** Python, Java, C++, Perl, GDScript, Assembly Language
- Database Technologies:** MySQL, SQL, DB2, Firebase
- Front End Toolkit:** React.js, JavaScript, HTML, CSS
- Data Analysis and Visualization:** Scikit learn, NumPy, Pandas, Matplotlib, Seaborn
- Container and Container orchestration:** Docker, Kubernetes, OpenShift cluster, Jenkins
- API and Frameworks:** REST API, Flask, ASP.NET Framework

## Experience

MAY 2022 – AUG 2023

### Software Engineering Intern / IBM Canada

- Integrated support for TM1 database into data virtualization tool in the DB2 software using Perl, **Python**, and Java, **SQL** and MDX query language enabling enhanced data analysis capabilities for end-users.
- Designed and implemented robust CI/CD pipelines using Jenkins, automating code builds, testing, and deployment.
- Created comprehensive test cases using Perl for the latest release versions of DB2.
- Developed and maintained internal tools like db2trc, and db2dart using C++, **Java**, and Perl.
- Leveraged JFrog Artifactory for retrieving and storing DB2 releases and employed Minio and AWS containers to streamline DB2 development processes.

## Projects

### ScholAIR / Smart Scholarship application helper

- Led a team of 5 in the successful creation of ScholAIR, a comprehensive web application, showcasing exceptional technical and collaborative skills.
- Secured a notable achievement by winning a **\$1000 cash prize** for the development of ScholAIR during the Hunter Hub Challenge hackathon, where the project stood out among more than **200 participating teams**.
- Developed the backend of the application using **Python Flask** technology and hosted it on a custom website server, ensuring seamless functionality.
- Established connectivity with **Firebase**, a cloud database, to store scholarship application data, further showcasing expertise in backend development and data management.

### Blaze / Clothing e-commerce Web Application

- Led a team of 5 developers in the creation of a comprehensive front and back-end solution for a clothing e-commerce platform.
- Designed and implemented the UI/UX using **React.js**, **HTML5**, **CSS** ensuring an engaging experience.
- Implemented a database using **MySQL** and integrated it into a backend server made using **Python's Flask** framework.
- Designed RESTful APIs for the backend server to perform CRUD operations and integrated them into the React application.

### J++ Compiler / Ground up compiler for J++ Language

- Designed and implemented a complete compiler in **C++** for the J++ programming language from the ground up, using tools like **flex** and **bison** for syntax analysis.
- Developed various compiler components, including a lexer, parser, and assembly converter, ensuring the project's completeness and functionality.
- Successfully implemented syntax checking, which included identifying and reporting errors to enhance code quality.