

# ASHEESH KUMAR YADAV

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## Education

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### Simon Fraser University

Expected Graduation: Dec 2026

*Bachelor's of Science in Computer Science*

*Burnaby, BC*

- **Relevant Coursework:** Data Structures and Algorithms, Operating Systems, System Programming, Databases, Software Engineering, Artificial Intelligence, Multimedia Systems, Linear Optimization, Computer Systems

## Work Experience

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### Simon Fraser University, Beedie School of Business

May – Dec 2025

*Undergraduate Research Assistant*

*Burnaby, BC*

- Built and maintained an internal **data ingestion platform** leveraging **Python**, **Bash**, and **Cron** to automate large-scale collection of YouTube engagement data from 50+ channels.
- Developed and optimized **ETL pipelines** to streamline onboarding and processing workflows, reducing manual intervention and improving overall system reliability.
- Achieved a **99% performance improvement** by redesigning a core **API integration algorithm**, enabling faster and more efficient data retrieval within strict quota constraints.
- Designed and managed **SQL-based storage systems** to handle hundreds of thousands of records, ensuring efficient queries and supporting downstream developer workflows.
- Prepared infrastructure for upcoming **NLP-driven** analyses on textual data, enabling sentiment classification, trend detection, and predictive modeling of movie success
- Created comprehensive **system documentation** and **ERD visualizations**, clarifying the architecture and data flow to facilitate smoother onboarding for new contributors.

### Healthy Acres LLC

Jun – Aug 2022

*Software Engineer Intern*

*Moorpark, CA, USA*

- Developed automation algorithms in **Python** that reduced operational labor by **30%**, translating to measurable cost savings.
- Built a **predictive analytics model (linear regression)** for water bill forecasting, reaching **80%** accuracy and informing budget planning.
- Created trend-based **data visualizations** using **Tableau** and **Matplotlib** to communicate insights to non-technical stakeholders, supporting sustainability and resource optimization goals.

## Projects

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Sync | Website | Source Code

Spring Boot | Mockito | Leaflet

- Built a **full-stack app** with **real-time messaging**, **location sharing**, integrated **APIs**(Imgur, Leaflet, etc.), and achieved **90% test coverage** with **Mockito/JUnit**.

Multithreaded Group Chat Server | Source Code

C | POSIX Threads | TCP Sockets

- Developed a **concurrent chat system** with strict **message ordering**, a **custom messaging protocol** including metadata for sender IP/port and end-of-execution, and built **fuzzing clients** generating random messages concurrently.

Simple Blockchain Implementation | Source Code

C | OpenSSL | SHA256

- Implemented a **tamper-evident blockchain** with sequential blocks storing data, previous hash, nonce for **proof-of-work**, and verified **hash consistency** across blocks to ensure integrity and tamper resistance.

## Technical Skills

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**Languages:** Java, Python, C, C++, JavaScript, MATLAB

**Frameworks/Libraries:** React, NodeJS, Spring Boot, Pandas, NumPy, Matplotlib, Leaflet, JUnit, Mockito, Selenium

**Tools/Databases:** Git, Github, Docker, PostgreSQL, MySQL

**Cloud Platforms:** AWS, Microsoft Azure, Google Cloud Platform (GCP), Compute Canada