

# Ankush Kumar

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## EDUCATION

### University of Waterloo

Waterloo, ON

*Honours Bachelor of Computer Science*

*October 2022*

- **Coursework:** Algorithms, Operating System, Object-Oriented Programming, HCI, Applied Cryptography, Computer Security and Privacy, Data Structures, User Interfaces, Logic and Computation, Probability
- **Awards:** University of Waterloo Presidential Scholarship

## EXPERIENCE

### BH Frontier Solutions Inc

July 2024 - Present

*Computer Vision R&D Engineer*

*Richmond Hill, ON*

- Enhanced CV model accuracy by 20% through optimization using **PyTorch** for improved performance
- Streamlined deep learning pipeline processes, including data pre-processing, training, & evaluation for efficiency
- Achieved a **30% reduction in processing time** by implementing best practices for model deployment

### ProgramPro

January 2024 - July 2024

*Software Developer*

*Waterloo, ON*

- Designed authorization & authentication services using **OAuth 2.0** & **JWT**, achieving **20% faster logins**
- Collaborated on scalable **MongoDB** backend solutions for course management, **boosting throughput by 15%**
- Integrated **Stripe** for seamless payment processing and developed **10+ RESTful APIs** for backend support

### NexDew Technologies

November 2022 - January 2024

*Software Developer*

*Remote*

- Developed and maintained **30 RESTful APIs** for "Sumaitriherp" hospital-based web application, handling CRUD operations, user authentication, patient management, & appointment scheduling, **using Spring Boot** with Spring Data JPA, Spring Security, Spring MVC, and MySQL database, resulting in streamlined processes
- **Improved web response time by 15%** through SQL query optimization and API endpoint refactoring
- Implemented data validation & error handling, **reducing errors by 25%** & ensuring accurate data processing

### SOCA

May 2021 - August 2021

*Web Developer*

*Waterloo, ON*

- Built an interactive website using **React** and **Redux** for a cricket league, used by more than 200 users, with features including user profiles, user & team stats, previous scorecards and a league leaderboard
- **Improved load time by 15%** by managing website's state with redux and integrating lazy loading of images
- Built a scalable UI capable of handling big traffic load by reducing UI re-renderings which **decreased data processing cost by 20%**

## PROJECTS

### VM-Nexus | Python

- Engineered VM Nexus, a **Dockerized** full-stack app for VM management using **Django** and **ReactJS**
- Integrated **Docker**, REST API & **Webpack** for seamless frontend-backend connectivity and CRUD operations
- Enhanced security with **SSH key** fields, enabling scalable, dynamic VM data management on UI

### Wallet | Java

- Created web application for user registration, authentication, fund transfers, withdrawals, and deposits
- Implemented core features using **Servlets**, **Sessions**, **Persistence API**, and **Hibernate ORM**
- Managed **MySQL database** for secure and efficient data storage and retrieval operations

## PUBLICATIONS

- **Enabling Brainstorming across Time Zones** | Addresses a tool-suite designed for asynchronous collaboration

## TECHNICAL SKILLS

**Languages:** Python, C++, Java, XML, Kotlin, C, JavaScript, SQL, Bash, Scheme, CSS

**Databases and Tools:** MySQL, OracleDB, Firebase, Git, Docker, Maven, Postman, Jupyter Notebook, JSON

**Framework and Libraries:** React, Redux, Node.js, Spring Boot, Prisma, PyTorch, Django, ReactJS

**Architecture Styles:** Client-Server, MVC, MVVM, Microservices, HTTP