Ankush Kumar

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EDUCATION

University of Waterloo   Waterloo, ON
Honours Bachelor of Computer Science   *October 2022*
- **Coursework**: HCI, Applied Cryptography, Computer Security and Privacy, Operating System, Algorithms, Data Structures, User Interfaces, Logic and Computation, Object-Oriented Programming, Probability
- **Awards**: University of Waterloo Presidential Scholarship

EXPERIENCE

BH Frontier Solutions Inc   July 2024 - Present
Computer Vision R&D Engineer   *Richmond Hill, ON*
- Utilized **PyTorch** to optimize CV model, achieving significant improvements in accuracy & efficiency
- Executed various steps of the DL model pipeline, including **data pre-processing**, **training**, & **evaluation**

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
- Implemented user-centered design, applied multi-page layout, **DRY principle** using **React-Bootstrap and CSS**
- Built a scalable UI capable of handling big traffic load by reducing UI re-renderings which **decreased data processing cost by 20%**

PetroWagon   August 2019 - January 2020
Software Engineer   *Waterloo, ON*
- Developed an **android app** for an online fuel delivery service-based start-up from scratch
- Programmed app's local database using **Android Room** and implemented **SQL** queries to store mutable live data
- Built **onboarding flow** to collect user information for customized suggestions
- Maintained structured code using **MVVM architecture** to enhance reusability and optimized app performance

PROJECTS

CatVsDog ⚲ | *Jupyter Notebook*
- A simple computer vision **classification model** that predicts if the object in the image is a cat or a dog
- Utilized **FastAI library** with pretrained **ResNet34** CNN and the Oxford-IIIT Pet Dataset

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
Framework and Libraries: React, Redux, Node.js, Spring Boot, PyTorch
Architecture Styles: Client-Server, MVC, MVVM, Microservices