

Ankush Kumar

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EDUCATION

University of Waterloo

Waterloo, ON

Honours Bachelor of Computer Science

August 2022

- Coursework: Operating System, Algorithms, Data Structures, User Interfaces, Object-Oriented Programming, Combinatorics, Probability, Applied Cryptography, Computer Security and Privacy, Human-Computer Interaction
- University of Waterloo Presidential Scholarship

TECHNICAL SKILLS

Languages: Python, C++, Java, Kotlin, Golang, C, JavaScript, SQL, Scheme, HTML/CSS

Tools: React, Git, Android Studio, Node.JS, Bash, Docker, Heroku, JavaFX

EXPERIENCE

Freelance - SOCA

June 2021 - August 2021

Web Developer

Waterloo, ON

- Built an interactive website in **React** and **Redux** for a cricket league played in Ontario by 16 teams every year
- **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%**

Petro-Wagon

August 2019 – January 2020

Software Engineer

Remote

- 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

ICSD Tech Labs

May 2018 – Aug 2018

C++ Tutor

Panipat, HR

- Worked closely with multiple batches of high school CS students to tutor in **Object Oriented Programming**
- Analyzed and debugged code written by different individuals, provided feedback and helped them with queries

PROJECTS

VirtualHaus | Kotlin

- Designed and developed an **Android Application** written using Kotlin following **MVVM** design pattern
- The app lets you keep track of items in the house, book quiet times, add events, check expenses, and more
- Architected using **Client-Server** model where live data is handled through **Firebase Realtime Database**

Game of Battleship | Kotlin

- Created a **Desktop Application** written in **Kotlin**, using **Javafx toolkit** following **MVC** design pattern
- Implemented User Interface concepts such as **Graphics, Animation, Hit-Testing, and Transformations**

Healthy 24/7 | Java, XML

- Developed an **Android App** using Java and XML that lets you set up a diet chart, calculate BMI and BMR
- Implemented data storage using **SQL database** that lets user create log of their BMI/BMR at a specific time
- Integrated USDA Nutrition **Database API** using Retrofit **HTTP client library** to search food nutrition

Chess - Three Levels | C++

- Created a **Chess Game** using **C++** with upto three levels of humans vs computer
- Implemented **min-max algorithm** for computer's next move and used **decorator, observer** design pattern

RayTracer | C++

- A raytracer written in **C++** to render and produce highly realistic images of geometric data like spheres in a scene
- Provided **multi-threading support** using **OpenMP API** and implemented features like **anti-aliasing**

EXTRACURRICULAR ACTIVITIES

- Participated in various hackathons including **SpaceApps, Distance Hacks, Equithon**