Kushal Goel

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EDUCATION

University of Waterloo   Waterloo, Canada
Bachelor's of Computer Science (Hons.) Co-op   Sep 2022 - Present
Sophomore (2nd Year); **Cumulative GPA: 3.98**

WORK EXPERIENCE

PayNearby   Delhi, India
Backend Software Engineering Intern   May 2023 – Aug 2023
- Revamped PayNearby's authentication infrastructure using Java and Spring Boot by consolidating scattered APIs into microservices, resulting in a **90% improvement** in authentication time
- Contributed to the development of **User Store API**, adhering to OAuth 2.0 standards, to efficiently manage user data
- Developed the OTP Store API to generate, fetch, and verify one-time passwords and conducted thorough unit testing of the API using JUnit, covering **95% of the code**
- Ensured data security by implementing AES encryption using a **thread pool** for storing sensitive data in the database
- Built a Java SDK client to consume REST APIs using HTTP connection pooling, handling **80% more** concurrent database connections and enhancing scalability

EXTRACURRICULARS

Computer Science Club | React, NextJS, TypeScript   Oct 2023 - Present
Web Developer & Data Science, CS Class Profile Team
- Analyzed raw data collected from a survey of **100+** recent graduates to derive insights for the Computer Science class profile
- Created visually appealing web pages and data visualization components by utilizing VisX to present the information

PROJECTS

RAIInet - Board Game ⎘ ⌄ | C++, Xlib   Nov 2023 - Dec 2023
- Created a board game inspired by Stratego by applying **object-oriented design** and **SOLID design** principles
- Designed a highly optimized graphical display using the X11 library, seamlessly integrating PNGs into the board
- Achieved a remarkable result of redrawing the board within less than **300 milliseconds** after each move
Integrated the **Model View Controller** and **Observer** design patterns to implement both text and graphical displays

CloudX - File Management Application ⎘ ⌄ | React, Express.js, Node.js   Jul 2023 - Aug 2023
- Developed a feature-rich **file storage and sharing app**, with a user-friendly dashboard utilizing React and React Router
- Facilitated seamless file uploads and downloads from Google Cloud Storage using **pre-signed URLs** with temporary permissions, resulting in **50% faster data transfers** and increased server efficiency
- Implemented robust user authentication using **JWT tokens, HTTP cookies, and Bcrypt** for hashing passwords
- Created RESTful API endpoints in Express.js, with PostgreSQL and Sequelize ORM for data storage

Investo - Mutual Funds Backend Application ⎘ ⌄ | Python, FastAPI   May 2023 - Jun 2023
- Built a backend application to fetch and analyze data for over **10,000** mutual fund schemes
- Created multiple endpoints to retrieve scheme information spread over **10+ years** with daily updates
- Calculated cumulative and absolute mutual fund returns for various years through multiple techniques

YouTube Shorts to Video Player - Chrome Extension ⎘ ⌄ | Chrome Browser APIs, JavaScript   Apr 2023
- Designed a Chrome extension with **200+ users** to enhance user functionality while watching YouTube shorts
- Facilitated playback controls by redirecting to the video player, addressing limitations in rewinding and skipping

SKILLS

Software: C, C++, Java, JavaScript, Python, Dart, Swift, Typescript, Go
Frameworks & Libraries: Next.js, ReactJS, Node.js, Express.js, Flutter, Xlib, TailwindCSS, Bootstrap
Others: Git, AWS, Firebase, PostgreSQL, MySQL, MongoDB, Jenkins, Linux, Bash, HTML, CSS, Postman, Figma