Uday Daroch

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Education

University of Canterbury Christchurch, NZ
Bachelor of Software Engineering with Honours (3rd year) *Feb. 2022 – Nov 2025*

Projects

Cycleways | *JavaFX, SQLite, Gradle, Leaflet, GeoJSON, GraphHopper API, OpenStreetMap API,Git* Aug 2023 – Nov 2023

- Developed a cycling application utilizing raw crash data from Waka Kotahi (800k entries).
- Implemented advanced filtering and sorting for improved user experience.
- Integrated route crashes onto the map with optimized clustering and lazy loading.
- Utilized GraphHopper API for accessing bike route data stored as GeoJSON.
- Constructed a robust and user-friendly interface using JavaFX and SQLite.
- Employed MVC and Spiral models for development.
- Ensured high quality with rigorous testing using Cucumber and JUnit.

Ecom website | *JavaScript, PHP, HTML, CSS, Bootstrap,MySQL, Git* Dec 2023 – Jan 2024

- Developed an e-commerce website with separate functionalities for admin and users.
- Implemented secure user authentication with signup option and session-based login/logout.
- Enabled product browsing, cart management, and order placement for pickup or delivery.
- Utilized MySQL database via PHP for storing user data and product information.
- Implemented secure password reset mechanism using SMTP protocol with auto-generated tokens.
- Admin functionalities included product management and insights for popular items.
- Designed responsive layout using HTML, CSS, and Bootstrap 5.3.

Backend API with SQL (grade 98.67 percent) | *Node.js, Express.js, TypeScript, SQL, Postman* May 2024 – Jul 2024

- Designed and implemented a robust backend API using Node.js, Express.js, and TypeScript to handle data transfer and communication between client and server.
- Utilized SQL for database management, executing queries to store and retrieve data efficiently.
- Implemented various endpoints to enable client-server communication, ensuring seamless interaction with the API.
- Thoroughly tested the API functionalities using Postman, ensuring reliability and robustness.
- Followed the MCR (Model-Controller-Route) architectural pattern for a well-structured and maintainable codebase.

Sentiment Analysis using Machine Learning | *Python, scikit-learn, NLTK, Jupyter Notebook, Git* Feb 2024 – Mar 2024

- Developed a sentiment analysis model to classify text data into positive, negative, or neutral sentiments (using ratings 1 to 5 where 5 is the positive 1 is negative).
- Preprocessed text data using NLTK for tokenization, stop-word removal, and stemming.
- Implemented various machine learning algorithms including Naive Bayes, SVM, and Logistic Regression using scikit-learn.
- Evaluated model performance using metrics like accuracy, precision, recall, and F1-score.
- Visualized results and performance metrics using Matplotlib and Seaborn in Jupyter Notebook.
- Improved model accuracy through hyperparameter tuning and cross-validation.

Portfolio Website | *Bootstrap, HTML, CSS, Git* Dec 2023 – Jan 2024

- Designed and developed a personal portfolio website using Bootstrap, HTML, and CSS, showcasing personal information, projects, and social media links.
- The website serves as a professional online presence, highlighting skills, experiences, and projects outside of university coursework.

UCISA Official Website | *React.js, 000webhost, HTML, CSS, JavaScript,Bootstrap, Git* Oct 2023 – Oct 2023

- Developed and deployed the official website for the University of Canterbury Indian Students Association (UCISA) using React.js.
- Published the website on 000webhost for public access, providing information about the club, its main members, and their backgrounds.

- Designed and implemented various web pages to showcase UCISA's activities, events, and services, fostering community engagement and communication.
- Utilized HTML, CSS, and JavaScript to create a responsive and user-friendly interface, ensuring optimal viewing experience across devices.

Embedded System Pong Game | *AVR-GCC, AVR-Objcopy, DFU-Programmer, C, Git* Oct 2023 – Oct 2023

- Implemented a Pong game for embedded systems with LED matrix displays, featuring paddle control, collision detection, and scoring mechanisms.
- Utilized AVR-GCC, AVR-Objcopy, and DFU-Programmer for compiling and uploading the game code onto the embedded device.

Technical Skills

Languages: Java, Python, C, MySQL, JavaScript, HTML/CSS, php
Frameworks: React, Flask, JUnit, CucumberTesting
Developer Tools: Git, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse,MySQL Workbench,Bootstrap
Libraries: NumPy, Matplotlib