Yetaek (David) Hong

3rd Year Computer Science

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Technical Skills

Languages: Java, Python, C, C++, C#, JavaScript, HTML/CSS, R
Skills & Technologies: React, MongoDB, MySQL, Django, Node.js, Git, Express.js, JSON, JUnit

Projects

Concurrent Traffic | *Python, Pygame, Git, ClickUp* | GitHub | Demo — June - September 2024

- Developed a traffic-light-free road simulator to maximize intersection traffic flow efficiency for self-driving cars
- Participated in biweekly **Agile development** sprints, utilized ClickUp for task management, and engaged in weekly status meetings, supporting consistent project progression and team collaboration
- Created a function to compute vehicle direction at a route position using trigonometric calculations for straight and circular edges, with angle conversions to degrees
- Developed a function to update vehicle commands for maintaining safe distances, adjusting speeds and obeying traffic lights, using kinematic equations for vehicles stopping behind each other
- Enhanced simulation flexibility by recreating traffic scenarios using JSON presets

Sustainify (nwHacks 2024) | *React, JavaScript, HTML, CSS, Git, Figma* | GitHub — January 2024

- Created a React program that prompts users with daily eco-friendly challenges, aimed to contribute to global pollution reduction through achievable tasks and a reward system
- Led a team of four by performing thorough code reviews and ensuring high-quality standards before branch commits, enhancing project robustness
- Showcased strong communication skills by presenting the final product to judges, highlighting key project outcomes, discussing trade-offs between technologies, and addressing challenges faced
- Implemented the fetch API to facilitate POST requests to the **OpenAI API** endpoint, generating three random challenges each day

Fridgey | *MongoDB, Express.js, React, and Node.js* | GitHub | Demo — April 2024

- Built a **MERN stack** refrigerator management system to tackle food waste caused by unnoticed expiration dates
- Implemented a barcode scanner with QuaggaJS and integrated it with a barcode API, simplifying item addition
- Designed and implemented a RESTful API using Node.js and Express.js for CRUD operations on grocery items

LNFT (Let's Not Forget Today) | *Django, MySQL, Python* | GitHub | Demo — December – January 2024

- Developed a diary web application using Django framework due to its built-in features like form handling and authentication, leveraging MySQL for database management
- Implemented the MVC (Model-View-Controller) architecture pattern to strengthen code organization and scalability in web development

Ingredient IQ (HackCamp 2023) | *JavaScript, HTML, CSS, JSON, Figma* | GitHub — November 2023

- Constructed a website enabling users to input a food item and receive alternative options with a comprehensive analysis, including pros, cons, and calorie content for each alternative
- Designed the website layout with clarity using Figma, and elevated visual elements through CSS

Experience

Instructor | *UnderTheGUI* | Site — December 2020 – Present

- Led a 16-week Unity and Python course for over **80 students** aged 8 - 16
- Demonstrated strong initiative and adaptability; becoming the first volunteer to be hired as a paid instructor
- Topics covered: working with classes, functions and kinematic physics for game development

Education

University of British Columbia (Year 3) — Vancouver, BC

Bachelor of Science in Computer Science — *Expected Graduation April 2027*