

# YETAEK (DAVID) HONG

## 3RD YEAR COMPUTER SCIENCE

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### TECHNICAL SKILLS

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**Languages:** Java, Python, C, C++, C#, JavaScript, HTML/CSS, R

**Skills & Technologies:** React, MongoDB, MySQL, Django, Node.js, Git, Express.js, JSON, JUnit

### PROJECTS

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- Concurrent Traffic** | *Python, Pygame, Git, ClickUp* | [GitHub](#) | [Demo](#) June 2024 - Present
- 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

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- 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

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**University of British Columbia (Year 3)**  
*Bachelor of Science in Computer Science*

Vancouver, BC  
*Expected Graduation April 2027*