

# Hudson Koyanagi

 [GitHub](#) |  [LinkedIn](#) |  [hudsonkoyanagi.github.io](https://hudsonkoyanagi.github.io) |  [hjkoyana@uwaterloo.ca](mailto:hjkoyana@uwaterloo.ca)

## SUMMARY

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Languages: Java, JavaScript, Python, C, HTML, CSS, SQL, React

Tools: UNIX CLI, Valgrind, GDB, Git

## WORK EXPERIENCE

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### Mesmerise Software Engineering/Data Science Intern

Jul-Aug 2021

- Designed and implemented virtual reality interior design elements with the software team
- Worked alongside head of the data science team to implement a mood recognition machine learning algorithm in Python

### The American School in London IT

Jun-Jul 2021 & 2022

- Responsible for the organisation, quality assurance, and re-imaging of nearly a thousand laptops

### London Sports Referee/Organizer

2018 - 2021

- Organised and refereed baseball, basketball and flag-football leagues for hundreds of children

## PROJECTS

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### Socket File Server

[source code](#)

- A multi-threaded, socket server-client program responsible for file transfers using Java
- Used Java Swing for client side GUI, while server transactions were handled in a separate thread
- Implemented a custom linked-list file tree to transfer the server side's file structure to the client as well as an API for GET, POST AND DELETE requests

### P2P Pong

[source code](#)

- A Multiplayer Pong game which uses Processing as graphics library with simple physics and graphics
- Custom data objects for fast serialization and transfer of game state at a high rate of delivery via a TCP connection using Java sockets

### Clean New Tab Extension

[source code](#)

- A minimalist replacement for the Chrome new tab page created with React and styled with Bootstrap
- Employs both IndexedDB and Chrome local storage for persistent user-side data
- Features an embedded P5.js script for graphic visuals

### Facial Recognition on Raspberry PI

[source code](#)

- A team project to implement a facial recognition "security system" in Python with the OpenCV and facial-recognition libraries
- Responsible for a locally hosted MariaDB SQL database for user management and logs, back end file management, facial-recognition optimizations, and GUI integration with tkinter

### Personal Website

[source code](#)

- A purely JavaScript, CSS, and HTML site with reactive visual elements and mobile compatibility

## EDUCATION

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2022 - 2027   Candidate for Bachelor of Software Engineering at **The University of Waterloo**