David Hu-Liu

647-449-9782 | huliud9vid@gmail.com | dhuliu.ca | github.com/d-huliu | devpost.com

TECHNICAL SKILLS

Languages: Java, Python, Racket, SQL (Postgres), JavaScript, HTML/CSS
Frameworks: React, Node, Express, Flask, JQuery, RestAPI, Tailwind, Bootstrap, Three.js
Developer Tools: Git, Google Collab, VS Code, Visual Studio, PyCharm
Libraries: pandas, NumPy, Matplotlib, Keras, OpenCV, Jupyter

HACKATHON EXPERIENCE

York Region Hackathon: 1st Place Overall [Devpost]
Project: HandPilot [Github]
- Used Python and Libraries like **OpenCV,** Mediapipe, Pyinput, for camera detection and mouse inputs, giving users with hand disabilities the gift of mouse control.
- Lead a team of 3 to pitch a hand-controlled, motion detected virtual mouse, solving a wide range of hand-disability issues unresolved before
- Designing and Implementing UI/branding. Prototyping **Mediapipe** functionality and .EXE conversion

MakeUC Hackathon: Best implementation of GPT-4 or other LLMs [Devpost]
Project: Verbate [Github]
- Utilized Node.js, Next.js, React, JS, **AWS poly/GPT-4 API** to create an interview-style voice interactive chatbot that reduces prompting hassle by **1100 characters** compared to standard GPT-4
- Designed a custom prompting system which improved interview rentention time by **40%** compared to plain GPT-4.
- Restructured server hosting to increase response loading speed by **30%**
- Competed against 300+ highschool-university students.

LyonHacks 3: 1st Place Overall [Devpost]
Project: DevInk [Github]
- Utilized React.js, HTML/CSS to create a full-stack, login protected code/drawing web whiteboard
- Building an online collaborative whiteboard tool that enables multiple users to add and edit elements, including text, images, and freeform drawings in real-time.

PROJECTS

Imagine Recognition ML AI [CIFAR 10] | *Python, Numpy, Mathplotlib*   July 2022
- I proposed a Grayscales conversion strategy, yielding **98% accuracy** by **epoch 10** with training data
- Leveraged Principles of **CNN**(loss function, activation function, convolution layers, pooling, etc)
- Collaborated in a team of 4, to achieve the **best neural network** in our Harvard Pre-College class

Chatbot NLTK Machine Learning AI | *NLTK, Pickle, Keras, Numpy*   Aug 2022 – Oct 2022
- Utilized Python's Natural Language Took Kit library and **SGD optimization** to create a language processing bot that randomizes its responses based on training data.
- Optimizing neural network to a maximum of **91%** training accuracy

Three.js Personal Portfolio | *Three.js, GSAP, Draco, HTML/CSS*   June 2023 – Present
- Utilized blender for the room model, **Three.js** for rendering and camera logic, **GSAP** for animations, html/css for display, and netlify for hosting. Visit Domain: dhuliu.ca

EDUCATION AND CERTIFICATIONS

University of Waterloo   Waterloo, ON
Bachelors of Computer Science and Business Administration   *Sept. 2023 – May 2028*

Harvard Pre-College Program: **Mathematical Elements of Data Science and Artificial Intelligence**
Udemy: **The Complete 2023 Web Development Bootcamp**