








# Amy Hu

 University of Waterloo 2B Computer Engineering

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## SKILLS

Languages	Java, C/C++, C#, Python, HTML, CSS, JavaScript, Haskell, VHDL, SQL, MATLAB
Frameworks	ASP.NET, Flask, FastAPI, Unity, jQuery, PyTorch, TensorFlow, Swing, Bootstrap, Hexo
Databases	MySQL, PostgreSQL, SQLite, Redis
Tools	Git/GitHub, Docker, $\LaTeX$ , IntelliJ Idea, Pycharm, VS/VSCode, SSMS, Railway, Figma

## EXPERIENCE

Present Jan 2022	<b>Autonomy Team Lead, WATERLOO, Waterloo Aerial Robotics Group</b> <ul style="list-style-type: none"><li>➤ Leading the autonomy team with 20+ members to deliver software that help UAV derive information from image, video, as well as coordinate inputs, and got <b>4th place</b> in AEAC student competition.</li><li>➤ Overseeing the team in design and develop a graphic interface and data-telemetry system for the drone's ground station using <b>Figma</b> and <b>PyQt5</b>.</li><li>➤ Assisted the development of a <b>YOLOv8</b> and <b>PyTorch</b> based drone landing-pad detection model.</li><li>➤ Collected custom datasets and accelerated the process of dataset annotation by implementing a <b>Python</b> program and modifying a <b>JavaScript</b> project to convert dataset labels into YOLOv5/8 format.</li><li>➤ Implemented a program to classify images using a <b>deep neural network</b> in <b>TensorFlow</b> to identify 10 different types of object classes.</li></ul> <div><span>Python</span> <span>PyTorch</span> <span>TensorFlow</span> <span>JavaScript</span> <span>Figma</span> <span>PyQt5</span></div>
Apr 2023 Jan 2023	<b>Front-End Developer, NORTH YORK, Sparklease Inc.</b> <ul style="list-style-type: none"><li>➤ Worked with <b>RESTful API</b> and <b>ASP.NET MVC</b> to develop user uploaded vehicle's detail page in <b>ASP.NET</b> and WeChat <b>MiniApp</b>.</li><li>➤ Applied lease/finance monthly payment algorithm to implemented a calculator with various canvas widgets such as a draggable round progress bar.</li><li>➤ Integrated and enhanced vehicle and user information upload features using <b>JS</b> and <b>AJAX</b>.</li><li>➤ Improved the website's <b>performance</b> by <b>60%</b> and optimized <b>SEO</b> by applying <b>Lazy Load</b>, eliminating unnecessary codes, enabling text compression, and using crawlable links etc.</li></ul> <div><span>ASP.NET</span> <span>MiniApp</span> <span>JavaScript</span> <span>REST API</span> <span>AJAX</span></div>
Aug 2022 May 2022	<b>Web Developer, TORONTO, eButterfly</b> <ul style="list-style-type: none"><li>➤ Developed the 6.0 version of the company's website and admin panel in <b>React</b> and finalized the server using <b>node.js</b>, features include data listing and data filters etc.</li><li>➤ Finalized the <b>swagger documentation</b> in the company's server.</li><li>➤ Led a group of five people with another colleague in the e-butterfly lab project by providing helps and advises with the back-end and the environment setup. Self taught <b>Flask</b> and <b>FastAPI</b> during this.</li></ul> <div><span>React</span> <span>node.js</span> <span>TypeScript</span> <span>Python</span> <span>Flask</span> <span>FastAPI</span> <span>Docker</span></div>
Jun 2020 Feb 2020	<b>Curriculum Developer Intern, RICHMOND HILL, Hatch Coding</b> <ul style="list-style-type: none"><li>➤ Developed games using <b>JavaScript</b> and <b>Python</b> to teach kids coding.</li><li>➤ Authored curriculum material on programming fundamentals.</li></ul> <div><span>Python</span> <span>JavaScript</span></div>

## PROJECTS Find more projects at : trotyl.xyz/projects

### THE MADHOUSE ADVENTURE GAME

DEC 2019 - JAN 2020

 [github.com/trotyl15/themadhouse](https://github.com/trotyl15/themadhouse)

-Created a graphical interface for an 2D RPG adventure game using **Swing** and developed game logic using **Java OOPs** concept.  
-Used **PhotoShop** to create a visually appealing pixel game design and original character sprites.

Java Swing

### PARO-TENNIS (WORK IN PROGRESS)

APR 2023 - PRESENT

 [github.com/trotyl15/paro-tennis](https://github.com/trotyl15/paro-tennis)

-Familiarized myself with **C#** and **Unity** to create a 2D tennis game with self-drawn background and original characters.  
-Applied **Rigidbody Physics** and **Collider** to make the game more realistic and playable.

Unity C#