

# ELAINE HUANG

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## PROFILE

Experienced Product Engineer looking to pivot back into software development. I have experience in **user-centered design, systems thinking, rapid prototyping** and have driven **innovation** in the healthcare technology industry.

## WORK EXPERIENCE

### Zimmer Biomet, Montreal QC

Sept 2019 – present

#### Senior Systems Designer / Product Owner

- Lead R&D software development end-to-end and **shipped 2 robotic products** for brain, spine, hip and knee surgery.
- Build **AI tools** to expedite the documentation and software testing process, **reducing documentation time by 30%**.
- Direct **user and performance testing** to inform development, balancing needs with technical feasibility and risk management.
- SME for **UI/UX design** (Figma), increasing opportunities for **user feedback by 200%**.
- Mentor and operate within a complex remote environment with our **multinational cross-functional team in English & French**.

### Innovation Program Coordinator

- Fostered innovation in a 200-person R&D department, **launching 3 projects** with local **universities, and hospitals**.
- Initiated market research and **pitched 5 proposals** (some AI) that influenced **\$2M in R&D roadmap investment**.
- Managed rapid prototyping of augmented reality knee surgery device, securing [patent filing](#), and **board approval** for funding.

### Baylis Medical Incorporated, Mississauga ON

Jan – Aug 2018

#### Research and Development Engineering Associate

- Prototyped and tested the an atrial fibrillation device using SolidWorks and LabView and various laboratory equipment

### University of Waterloo Electrical Engineering Department, Waterloo ON

May – Aug 2017

#### NSERC Undergraduate Research Assistant

- Envisioned, prototyped and tested a virtual reality device to see if biosignals (EMG, ECG, EEG) can be used to diagnose concussions (C#, Arduino)

## PROJECTS & PUBLICATIONS

### Literature Review Gemini AI Assistant | [Github](#) |

Sep 2025

An automated AI flow designed to generate a literature review summary to identify known risks associated with the technology that will be integrated into the medical device under development. (*Python, LangChain, Gemini*)

### Automatic Test Case Generation - Multiple AI Agents System | [Github](#) |

Jun 2025

Generate test cases automatically using proprietary specifications implemented RAG, Re-Act and Human feedback concepts. (*Python, LangGraph, Ollama, Chroma*)

### Elaine's Easecipes | [Github](#) |

Jan 2024

Food website of family recipes created using vanilla JS. (*Javascript, Typescript, Express, SQLite, Tailwind*)

### Development of Concussion Evaluation Tools Using Life-Like VR Environments

HCI International 2018

Sawires Y., Huang E., Gomes A., Fernandes K., Wang D. (2018) Development of Concussion Evaluation Tools Using Life-Like Virtual Reality Environments. In: Stephanidis C. (eds) HCI International 2018 – Posters' Extended Abstracts. HCI 2018. Communications in Computer and Information Science, vol 851. Springer, Cham

## SKILLS

**Programming:** Python, Matlab, SQL, C#, C++

**UX, UI:** Figma

**Web Development:** JavaScript, Typescript, React,

**AI:** Prompt/Context Engineering, RAG, API/MCP Integration

HTML/CSS

**Languages:** Native English & French; basic Chinese

**Product Management:** Agile, JIRA, Confluence

## EDUCATION & CERTIFICATIONS

### Applied Data Science Program: Leveraging AI for Effective Decision-Making

MIT Professional Education

**Bachelor of Applied Science**, in Biomedical Engineering, Co-op

University of Waterloo, Waterloo, ON - 2019

Graduated with Distinction (GPA: 3.87/4.00) | Baylis Medical Award for Capstone Design Project (\$5k)