

JOYCE CHEN

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EDUCATION

Rhode Island School of Design

2025-2027

Candidate for MID, **Master of Industrial Design**

Machine Shop Monitor, Electronics Lab Assistant, Communications Team Liason

University of Waterloo

2020-2025

BASc Honours **Mechatronics Engineering - Dean's Honours Distinction**

SKILLS

Manufacturing: Injection Moulding, Woodworking (table saw, band saw, jig saw, router, planer, jointer), 3D Printing (FDM, SLA), Sheet Metal Design, CNC, Laser Cutting

3D: SOLIDWORKS, OnShape, Keyshot, Creo, Blender, Rhino, Grasshopper

2D: Photoshop, Illustrator, Lightroom, InDesign, Figma, Procreate, AutoCAD, C, C++, MATLAB, HTML, CSS

EXPERIENCE

Product Design Mechanical Engineer

Jan - Aug 2024

Verkada - San Mateo, California

- Led the [complete engineering design and manufacturing of a demo kit device](#) from ideation to mass production
 - Designed, kicked off, and tested complex sheet metal NCT and plastic injection moulded parts, working with manufacturing vendors in Asia for DFM and tooling
 - Worked closely with Industrial Design, Electrical, Supply Chain, and Leadership for design vision and packaging
 - Created the SOP and taught assembly line workers to build 650+ units for production
- Travelled to Taiwan and Vietnam to provide mechanical engineering support on EVT and DVT builds for NPI projects
 - Supervised workers, implemented jig improvements, performed drop tests, functionality tests, cosmetic checks

Product Design Mechanical Engineer

May - Aug 2023

Viryl Technologies - Toronto, Ontario

- Designed and improved parts for modern automatic vinyl record pressing machines using SOLIDWORKS
- Conducted failure and root cause analysis for a keyed shaft: performed cyclic loading fatigue life calculations and proposed tolerance, material, and dimension changes to help the shaft reach infinite life
- Performed compression moulding tests, designed parts for machining, and operated a CNC mill

Product Design Mechanical Engineer

May - Aug 2022

SnapPea Design - Kitchener, Ontario

- Designed injection moulded parts for a wearable device and locking enclosure in Creo, used 3D printers to prototype
- Co-developed and finalized a patent pending design for a plastic clamping mechanism for fabric curtains

Mobile Game Visual Designer

Sept - Dec 2021

Salutation Studio - Waterloo, Ontario

- Defined the artistic style for a mobile game with conceptual designs, splash art, typography, logos, and icons

PROJECTS

Salico

2025

- Made [an automatic sea asparagus harvester](#) in a team of 5 for a Hawaiian farm, a step towards revolutionizing agriculture while benefitting the environment
 - Acted as project manager and mechanical designer, completing design and prototyping in 7 months, and coordinating on-site testing in Hawaii to improve harvest speed and yield quality
- Won "Best Overall Mechatronics Engineering Project" & "Norman Esch Entrepreneurship Award"

Redbull Flugtag 1st Place National Winner

2022

- Led the complete mechanical and artistic design of the "Snap Pea Flying Machine" in a team of 9 from creative direction and sketches to CAD and mechanical build out
- [Won 1st for flight distance, creativity, and showmanship](#), then flew a victory lap in a Redbull stunt plane