

# Nima Karami

FRONT-END DEVELOPER · CREATIVE PROGRAMMER · UNIVERSITY OF WATERLOO

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"Be thankful for what you have; you'll end up having more."

## Summary

Web Development  
Data Science  
Design

Javascript · HTML · CSS · React · Bootstrap · NodeJS · REST API · Git · Accessibility  
Python · Jupyter · Open CV · Numpy · Pandas · Matplotlib · Pillow · Pinescript · Backtrader  
Figma · Illustrator · Photoshop · InDesign

## Work Experience

### Diamond Schmitt

GENERATIVE DESIGNER

Toronto, CA

Jan. 2021 - Apr. 2022

- Utilized an **evolutionary algorithm** to **optimize** tower placement and geometry.
- Engineered an automated system to **simulate** shadow impacts and produce an **analysis** based on **weather data**.
- Developed an **algorithm** to maximize daylight access while minimizing heat loss in high-rise residential buildings.

### Functionland

WEB DESIGNER

Toronto, CA

Nov. 2021 - Mar. 2022

- Designed and wireframed the **User Interface** for fx.land website using **Figma** and **Photoshop**.
- Managed** and **supervised** the production of media including photos, videos, and 3D animations in an **agile environment**.
- Implemented the website as part of the **front-end** development team using **Svelte**.

### Freelance

SOFTWARE DEVELOPER

Toronto, CA

Jan. 2018 - Dec. 2021

- Designed and programmed a **kinetic** shading structure using **Python** and **Grasshopper**.
- Analyzed internal forces of a **parametric** space frame using **Python** and **Karamba**.
- Developed a **generative** program for modeling numerous variations of Muqarnas, an architectural ornamentation with **highly complex geometry**.

## Projects

### Hero Friends

<https://nima-karami.github.io/herofriends/>

Toronto, CA

Jun. 2022

- Designed and developed 700+ superheroes and supervillains using **React.js** and **REST API**.

### Hiroshi Pixels

<https://nima-karami.github.io/Hiroshi-Pixels/>

Toronto, CA

May. 2022

- Designed and engineered an interactive **computer-generated art** inspired by the works of Hiroshi Kawano (1925-2012).
- Used **DOM Manipulation** to adjust the color, shape, and resolution of the generated art.

### Waste-Stacked

<https://github.com/nima-karami/Waste-Stacked/>

Toronto, CA

Jan. 2019 - Jun. 2020

- Developed an **on-line 3D packing algorithm** for an unsorted set of irregular components.
- Deployed a **rigid-body physics simulation** to validate the stability of compression-only structures.
- Developed an autonomous system to analyze irregular objects, calculate the best target pose, simulate the solution, and generate a tool path for a **UR10 collaborative robot**.
- Researched** +100 academic sources for C&D waste management, material reclamation, and computation & robotics.

### Cybrid Serenade

<https://github.com/nima-karami/Cybrid-Serenade/>

Toronto, CA

Jun. 2019

- Developed a proof-of-concept for the application of **affective technologies** in architecture.
- Implemented and trained a **machine-learning** algorithm to detect emotions and **facial expressions** using **Open CV**.

## Education

University of Waterloo

FACULTY OF ENGINEERING, MARCH

Waterloo, CA

Sep. 2018 - Oct. 2020