

# Luke Erling Fredrickson

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www.lukefredrickson.me | github.com/lukefredrickson

## EDUCATION

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**University of Vermont** // Burlington, VT

*Degree Expected May 2022*

- Bachelor of Science, Computer Science // Statistics Minor // Dean's List: all semesters GPA: 3.95

## WORK EXPERIENCE

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**Social Ecological Gaming and Simulation (SEGS) Lab, University of Vermont** // Burlington, VT

*Undergraduate Research Assistant*

*June 2020 — Present*

- Created an experimental game in Unity to study human risk-taking behavior in the context of COVID-19. Programmed game scripts in C#. Created pixel art assets and animations from scratch using Aseprite.
- Programmed a custom survey tool for Unity in C# that builds from JSON data extracted from Google Forms.

**Packetized Energy** // Burlington, VT

*Software Developer Intern*

*Sep 2020 — Dec 2020*

- Contributed production front-end and back-end code to a single-page React application.
- Integrated back-end AWS data into front-end React components using Redux, AWS Lambda, and Serverless.
- Utilized Jest to write unit tests and integration tests for production code.

**Department of Computer Science, University of Vermont** // Burlington, VT

*Teaching Assistant, Data Structures and Algorithms*

*Jan 2020 — May 2020*

- Assisted students with conceptual material and C++ programming for CS124: Data Structures and Algorithms.

## PROJECTS

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**Personal Website** // [lukefredrickson.me](http://lukefredrickson.me)

**UVM Bikes! Website** // [uvmbikes.com](http://uvmbikes.com)

- A static website for the UVM student bicycle co-op, built with React, Gatsby, and headless WordPress.
- UI Designed in Figma and implemented with Tailwind CSS.

**UVM Cycling Team Website** // [uvmcycling.com](http://uvmcycling.com)

- A static website for the UVM Cycling Team, built with React and Gatsby, and styled with vanilla CSS.

**Raspberry Pi Spotify LED Visualizer** // [github.com/lukefredrickson/spotify-led-visualizer](https://github.com/lukefredrickson/spotify-led-visualizer)

- A web app which harnesses Spotify API data to visualize music on an LED strip via a Raspberry Pi server host.
- Utilizes Node.js, Express, and Socket.io to manage user authentication, data flow, and API queries.

**Metapopulation Dynamics Simulation** // [github.com/lukefredrickson/metapopulation-dynamics](https://github.com/lukefredrickson/metapopulation-dynamics)

- Graphical simulation of population migration between discrete cells in an enclosed ecosystem over time.

## TECHNICAL SKILLS

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**Languages:** JavaScript, Python, HTML & CSS, C#, C++, C, R, Java

**Libraries & Frameworks:** React, Redux, GraphQL, Node.js, Gatsby, Tailwind CSS, Jest, Serverless

## LEADERSHIP & COMMUNITY INVOLVEMENT

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**UVM Bikes! (Student Bicycle Co-op)** // University of Vermont

*President*

*May 2020 — Present*

- Oversee club operations, communications, marketing, and execution of long-term club goals.
- Manage a team of over 20 student volunteers and a leadership team of 5 club officers.
- Volunteer several hours a week fixing bicycles for UVM students and faculty.

*Treasurer*

*May 2019 — May 2020*

- Created and managed the club budget and inventory. Coordinated purchases with local vendors.