

# Luke Erling Fredrickson

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## EDUCATION

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

*Degree Expected May 2022*

- Bachelor of Science, Computer Science // UVM Honors College
- Mathematics Minor & Statistics Minor // Dean's List: all semesters

GPA: 3.94

## TECHNICAL SKILLS

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### Programming Languages, Libraries, & Frameworks

*Proficient:* C#, Python, Java, JavaScript, React.js, HTML, CSS // *Familiar:* C++, Node.js, R, SQL

### Relevant Courses

Data Structures & Algorithms // Advanced Programming in C++ // Web Development // Object Oriented Java

## PROJECTS

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

**UVM Cycling Team Website:** [uvmcycling.com](http://uvmcycling.com) // React.js, Gastby.js, HTML, CSS

- A website for the UVM Cycling Team built with React.js and Gatsby. In active development.

**Raspberry Pi Spotify LED Visualizer** // Node.js, Express, Socket.io, HTML, CSS

- 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** // C++, OpenGL

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

## 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 a COVID-19 simulation game in the Unity Engine to study human risk-taking behavior in the context of a global pandemic. Programmed game scripts in C#. Created art assets and animations from scratch.
- Wrote a custom survey package for Unity in C# which uses JSON data extracted from Google Forms.

**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.

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

*Peer Mentor*

*Sept 2019 — May 2020*

- Mentored a group of 18 first-year computing students in the UVM Honors College.

## LEADERSHIP & COMMUNITY INVOLVEMENT

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**UVM Bicycle Co-op** // University of Vermont

*President*

*May 2020 — Present*

- Oversee club operations, communication, marketing, and execution of long term club goals.
- Manage a team of 20+ student volunteers and a leadership team of 3 club officers.
- Volunteer several hours per 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.

**UVM Cycling Team** // University of Vermont

*Cyclocross Season Coordinator*

*May 2020 — Present*

*Collegiate Cyclist*

*Sept 2018 — Present*