

# Lucas Nogueira

Computer Engineering, University Of Waterloo

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## Skills

**Languages** | JavaScript, Go, Python, C/C++, Java, HTML, CSS, Bash, Groovy, Assembly

**Tech** | React, Docker, Node, AWS, Git, WebRTC, Kubernetes, MongoDB, Socket.io, MySQL, Redis

## Experience

**The Weather Network | Software Developer in Test, Infrastructure** May 2020 - August 2020

- Contributed to deprecation of C++ monolithic forecast engine by developing **loosely coupled Go libraries** to **concurrently** process weather files serving **+4 million unique users**.
- Performed **geospatial queries on MongoDB** to process coordinate messages from **AWS SQS** and **S3** events on **8GB** data sets of granular precision weather data leading to nearly **30% performance upgrade**.
- Used **Jenkins, Docker, and K8s** to standardize the **CI/CD** approach on the company for **all backend teams** by engineering a configurable centralized **deployment pipeline** improving infrastructure maintainability.

**Liteboard.io | Founder & Software Engineer**  April 2020 - Present

- Built backend infrastructure, using **Janus SFU implementation**, capable of supporting **multistream conferences** with up to **50 participants** per room powered by **WebRTC, Redis, Node and Express**.
- Implemented **state-of-the-art drawing tools** and attachment equipped **chat rooms with Paper.js and Socket.io**, respectively, which **attracted school's news and teachers** to recommend and use the product.

**AGF Investments | Junior Web Developer** September 2019 - December 2019

- Made multiple **JSP** pages and **Java backend** server endpoints interacting with **SQL databases** to handle users/staff messaging requests and secure file uploads that **impacted over 60 000 people**.
- Implemented **React** into **Java Spring** to migrate off legacy JSPs and jQuery Plugins which **reduced bundle size by approximately 15%**.

**University Of Waterloo | CS138 Teaching Assistant** January 2019 - April 2019

- Conducted lectures and office hours to teach contents such as **Data Structures and Object Oriented Programming** in **C/C++** for **Software Engineering** students and developed **Bash/Python** scripts for auto-marking assignments leading to **+90%** overall student approval.

## Projects

**Expression Tree Simulator - Side Project**   **Tech Stack** | JavaScript, HTML, CSS

- A web app that, with animation, generates a **binary tree** of an arithmetic expression with pure JavaScript using **Knuth's layout algorithm** in order to assign coordinate to nodes without collision of branches.
- Utilized **Dijkstra's Shunting-yard algorithm** to parse expression from infix to its postfix form in order to create tree structure to later animate simulation.

**Senses - Hack The North 2019**  **Tech Stack** | Google Cloud Platform, React Native, Python, Flask

- Engineered mobile app in **24 hours** that take pictures and get instant audio responses in any language about the photo data using **Google Vision, Text-to-Speech, and Translate** to process **base64 encoded images**.

## Education

**University of Waterloo | Bachelor of Computer Engineering** September 2018 - April 2023

\$2000 President's Scholarship Of Distinction

**University of Rio de Janeiro (UFRJ) | Bachelor of Electrical Engineering** February 2018 - August 2018

Placed 6th of all admitted students; Top 5% student - Calculus 1 Award;