

# Michael Ramoutar

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[PORTFOLIO](#)

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**SKILLS** React, Redux, Ruby, Rails, C++, JavaScript, Java, SQL, C, C#, Python, Rust, PostgreSQL, SQLite3, jQuery, Assembly x86, Mongoose, MongoDB, Node.js, Express.js, Sequelize.js, HTML5, CSS3, Bootstrap 5, Canvas, Git, Heroku, AWS, Webpack

## PROJECTS

**Paint by Numbers** (Mongoose, MongoDB, Express, React, Redux, Node.js)

[live](#) | [github](#)

*An application built using the MERN stack for creating, playing, and sharing Nonogram puzzles using drawn or uploaded images.*

- Worked in a team of 3 engineers, serving as the lead backend engineer, handling overall project structure, MongoDB management, user authentication, models, schema, validations, Axios requests, Redux Store, actions, and reducers.
- Designed a complex framework of React components to compose the puzzle Board interface, which facilitates a myriad of stylish and responsive functionalities such as multi-select.
- Scripted robust functions including matrix and string parsers for importing and converting images into pixilated Tilemaps, whose RGB values were analyzed to produce playable, shareable, and savable puzzles.

**Centipede.js** (JavaScript, HTML, CSS, Canvas)

[live](#) | [github](#)

*A recreation of the classic Atari 1981 game Centipede with a modern twist including more enemies, power-ups, and game mechanics.*

- Utilized Canvas API to draw and render custom-made assets to the screen infinitely till the player loses all lives.
- Implemented AI, movement, and player-tracking algorithms for the game's entities, using advanced mathematics in JavaScript. Game entities have unique traits and changeable behavior that randomize gameplay.
- Created procedurally generated sound effects using the JavaScript Sound Effects Library.

**\$TRIF3** (Ruby on Rails, React, Redux, PostgreSQL, ActionCable, WebRTC, C++, AWS)

[live](#) | [github](#)

*A comprehensive full-stack clone of the popular communication app Discord and its functionalities including text, video & voice chat*

- Utilized both React and Rails to produce a dynamic, responsive single-page application connected to PostgreSQL databases.
- Employed Web sockets using Action Cable and WebRTC allow users to live-chat including video & voice calls, create servers, and message each other all in live time.
- Created an API called CORE which uses Action cable and Redux to achieve full asynchronous functionality everywhere in app, any Redux action dispatched that involves multiple users, or visual changes will be transmitted live to each user.

## EXPERIENCE

**Associate Software Developer, DevOps Engineer**

Infosys, New York, NY

July 2020 - March 2021

- Trained in using Java, JavaScript, Angular.js, Node.js, HTML, CSS, SQL, Spring Boot, and Spring Framework to maintain systems and applications of company clients.
- Deployed as a DevOps Engineer deploying solutions to ensure both client and company software work together seamlessly.

**Computer Science Teacher & Tutor**

RFCUNY- York College, New York, NY

Spring 2018 – Summer 2019

- Taught High school students the basics of C++ and Python in an after-school program designed to introduce the field of computer science to a younger audience
- Tutored college students ~15-30/week in Math, programming, data structures & algorithms, and computer science theory.

**Software Engineer Intern, Autonomous Drones & A.I.**

United States Department of Defense - Army Research Labs, Baltimore, MD

Summer 2018

- Development of navigation stack & object detection algorithms on a UGV, using Convolutional Neural Networks to detect objects/people in an area to provide environmental intelligence to tactically aid soldiers – (MATLAB, C++, Python, ROS)

## EDUCATION

**Software Development - App Academy** | Spring 2022

**Software Development – CUNY Tech Prep** | 2018 - 2019

**Computer Science BS – The City University of New York -York College** | 2014 - 2019