IVAN ROTH

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SKILLS:

React, Redux, Flask, Express, JavaScript, SQL, PostgreSQL, HTML, CSS

PROJECTS:

INFINITE LIBRARY *Node.js Express, ReactJS* live | github

A book catalog website that reviews and automatically retrieves bibliographic data

- Designed a frontend user interface with React and CSS to allow users to add and browse bibliographic data entries.
- Created backend routes in Express to efficiently read and write bibliographic data to a PostgreSQL database.
- Utilized image data parsed from the Google Books API to display book covers automatically and space-efficiently on individual book pages.

ALL-A-BOT *Flask, ReactJS, Redux* live | github

A form-based online interface for automatically creating and downloading ready-to-deploy Discord chatbots

- Implemented a dynamic form using MaterialUI with React / Redux on the frontend to efficiently load stored data and update form layout
- Stored complex, nested data in a flexible, non-limiting format wit SQLAlchemy, allowing for versatile scope.
- Designed backend server routes in Flask to handle retrieval and formatting of data in multiple formats.

SWEETFEED *Flask, ReactJS/Redux* live | github

A modern RSS reader with embedded media content and social features

- Implemented authentication using JSON Web Tokens and protected routes in React to ensure clarity and security.
- Determined how best to retrieve, parse, and present XML data from RSS feeds using React's dynamic content and formatting capabilities.

EXPERIENCE:

Data Entry Assistant - *ABC Legal* Dec 2019 - Mar 2020

- Corrected and completed OCR-generated data harvested from legal documents to correctly direct documents for service of process.
- Leveraged Excel spreadsheets with advanced features to identify potential bottlenecks or inefficiencies in office workflows, by monitoring the rate at which documents were being processed.

Contractor - *Daphnia Labs* April 2019 - July 2019

- Identified and labelled, in machine-readable format, individual organisms in photographs to allow that data to be used efficiently for training a machine learning algorithm.

Mathematics and Computer Science Tutor- *Marquette University Tutoring Center* Sept 2016 - May2019

- Guided students interactively through problems and concepts in Mathematics and Computer Science as a professional tutor in courses such as Calculus 1, 2, and 3, Linear Algebra, Intro. to Computer Science, and Data Structures & Algorithms I.

Congressional Intern - *Ways and Means Democrats* Aug 2017 - Dec 2017

- Collated and arranged policy data in order to provide clear and accurate information to be used for making arguments in Congressional hearings.
- Handled communications from constituents, office staff, and members of Congress in real time in order to deliver the most important and urgent information directly to policy staff and office managers.

Undergraduate Research Fellow - *Marquette University* June 2017 - Aug 2017

- Conducted paid research on graph theory problems in an academic context.
- Ran simulations in Python of optimal graph configurations at different scales to test numerical hypotheses.
- Analyzed experimental data to find mathematical formulae for bounding the limiting behavior of certain graphs.

EDUCATION:

AppAcademy Graduated 2020

Marquette University - *BA Mathematics & Political Science* Graduated 2019

PUBLICATION:

Boyland, P., Roth, I., Pintér, G., Laukó, I., Schoenfield, J. E., & Wasielewski, S. (2017). On the Maximum Number of Non-intersecting Diagonals in an Array. *Journal of Integer Sequences*, *20*(2), 3.