# Tony Ito-Cole Software Engineer | University of California, San Diego

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## TECHNICAL SKILLS

**Strong:** TypeScript, React (Hooks, Router), Redux (Thunk), Node.js, Express.js, Electron, Next.js, TDD (Jest, Enzyme), SQL, NoSQL, ODMs (Mongoose), Bash, Git, Travis CI, Konva, Material-UI, JavaScript (ES6+), HTML, CSS
**Experienced:** Webpack, React Native, D3.js, Puppeteer, Docker, AWS, Linux, Python, Java, MATLAB, OpenCV

## EXPERIENCE

**ReacType |** Software Engineer **2020**

- Developed a React application prototyping tool that provides developers with a fast, reliable, and easy-to-use platform to visually design their project, expediting the initial set-up stage of building their desktop or mobile product
- Leveraged TypeScript's strictly typed nature to allow for quicker development through faster debugging, accelerating the process of constructing responsive components that rely on the unidirectional passage of information
- Harnessed Redux's paradigm of data flow to improve the reliability of programs that experience dynamic, high-frequency changes to the view, where unpredictable user inputs need to be reflected in a global store with accuracy and precision
- Utilized Electron's robust event emitting capabilities to design commands programmed to display a uniquely designed tutorial that is responsive to user input, and to implement keyboard shortcuts that enable quick editing of components
- Designed a history navigation algorithm by manipulating the immutable behavior of the global state in the Redux store
- Implemented a React Native mode that allows users to switch to an interface designed for creating mobile applications
- Fostered test-driven development with Jest and Enzyme unit tests to minimize unexpected side effects that may arise when implementing new features to a project, and Travis CI for structured and seamless deployment of products

**Salk Institute for Biological Studies |** White House BRAIN Initiative Researcher **|** Systems Neurobiology **2013 - 2019**

- Employed the OpenCV library for Python to create object counting algorithms that detect cell brightness and eccentricity
- Updated a MATLAB based intrinsic brain signal imaging program's codebase to work with a 64-bit architecture system
- Improved a visual area segmentation algorithm using Gaussian distribution for quantifying intrinsic brain activity
- Automated image analysis and alignment processes in Java to render 3-D reconstructions of fluorescent brain tissue

**Western Science |** Web Developer **2012 - 2014**

- Utilized PHP and MySQL to design and maintain a web application with a functional customer portal and cart system

## OPEN SOURCE PROJECTS

**Compost |** A Pastebin influenced user authentication-free group travel checklist application **2020**

- Crafted a RESTful API service with Node.js and Express to create custom routes and middleware, flexibly converting HTTP requests to secure SQL queries and mutations that allocate item and user data to each randomly generated URI
- Designed a React front-end to accelerate the process of creating dynamic user interfaces, leveraging state management in functional components through the use of hooks that respond to various asynchronous events
- Incorporated Material-UI to provide a clean and unified user experience through customized reusable components
- Utilized Webpack to compress the application to boost overall performance before deployment onto a cloud platform

**Polobot |** An email notifier for the Poloniex cryptocurrency exchange **2017**

- Created a Python program designed to make secure API requests to manage sensitive information about a client's assets
- Configured a low-powered and recovery capable environment so the application can run reliably on a Raspberry Pi

## EDUCATION

**University of California, San Diego |** *B.S, Biochemistry and Cell Biology* **2014**
Relevant Coursework: Fluency in Information Technology, Introduction to Programming, Biostatistics

**Lake Erie College of Osteopathic Medicine - College of Medicine** **2019**

## PUBLICATIONS AND PRESENTATIONS

"Improved Monosynaptic Neural Circuit Tracing Using Engineered Rabies Virus Glycoproteins," *Cell Reports,* ***2016***
"Extraction of Distinct Cell Types from Within a Genetically Continuous Population," *Neuron,* ***2020 (Accepted)***
"Server-Side Rendering: When and Why?" *SingleSprout Software Engineering Speaker Series,* ***2020***

## INTERESTS

Volunteering at a homeless youth resource center (Stand Up for Kids), catching up on the latest medical and neuroscience research, teaching biology, computer science, and Japanese language concepts, and hanging out with my wonderful cat