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Full Stack Software Engineer & Tech Lead

WORK EXPERIENCE

Founder, Knotend *(https://www.knotend.com)* ***December 2022 - Present***
Knotend is a keyboard-centric flowchart editor. You can use it to create flowcharts and export them to other formats like SVG, mermaidjs, and others. I made this for myself because I wanted a way to edit and visualize dependencies in large projects while I was working at Strateos.

Staff Software Engineer, Strateos January 2019 - December 2022
www.strateos.com

Skills Used: Javascript, TypeScript, Ruby on Rails, Python, Golang, Kubernetes, Postgres, AWS, JSON API

Overview: Strateos builds and operates robotic chemistry and biology labs. Our clients are large pharma companies who use our technology to 10x the speed of their drug discovery lifecycle. Strateos was formed from the merger of Transcriptic (where I formerly worked) with 3Scan, a company making advanced 3D microscopy devices for imaging cell tissue.

My accomplishments:

- Was a key member of the interview team in the search for a CEO and SVP of Engineering.
- Acted as a tech lead on the team managing our primary web application. I mentored younger developers on both the frontend and backend.
- Integrated a third party system that allowed scientists to submit chemical structures to our system for analysis and synthesis
- Re-architected our system of managing millions of chemical compounds in Postgres using the RDKit cartridge on AWS
- Defined our internal Request for Comments (RFC) process which quickly gained traction and became the standard way for engineers to communicate large change requests
- Worked in customer facing roles to facilitate the technical discussions when onboarding large new clients
- Defined our API documentation system and setup code generation for API docs

Software Engineer – Senior Software Engineer, Transcriptic February 2014 - Jan 2019
www.transcriptic.com

Skills Used: Javascript, Typescript, Web sockets, React, Flux/Redux, React Native, Ruby, Rails, JSON API, Scala, Postgres, Heroku, Product Development, Team Building, Code Review, Git

Overview: Transcriptic is a robotic cloud laboratory founded by Max Hodak, one of the founders of Neuralink. It built software and hardware for executing molecular biology experiments on robotics. I was the first engineer hired to focus on front-end engineering and over time became one of the most senior at the company. I have worked on several applications that interface with the robotic laboratory and inventory. I was one of two initial engineers working on the primary web application. I also worked extensively on the software that controls the lab robotics (Scala). My accomplishments:

- Designed and developed an interactive graphical representation of an experiment. The graph can be dragged and zoomed on both web and mobile browsers. I used SVG and CSS transforms instead of canvas in order to keep code simple while still performant. I later open sourced the React component that handles zooming and panning (react-map-interaction). It got up to 10k/downloads/week on npm at one point: https://www.npmjs.com/package/react-map-interaction.
- Primary contributor to the web application that allows operators to control a workcell. This app uses HTML canvas to render an interactive view of a schedule. It uses a web socket to keep data in sync between client and server such that all operators see up to date information.
- Developed a backend system for automatically choosing the optimal location to store samples
- Built a command line interface tool in Python for programmatic interface to the workcells.
- Interviewed hundreds of candidates and helped to define our hiring process
- Redesigned and implemented the most important and most complex experience in our application — launching a new experiment.
- Updated the Scala code that controls our robotic arm to incorporate a new kind of gripper.
- Implement a custom flux architecture for client side state management. We built this before Redux became popular.

Software Engineer, Salesforce **July 2013 - February 2014**

Skills Used: Javascript, Coffeescript, HTML/Stylus/CSS, Gulp, React, Backbone, Golang, Git, Agile, Scrum

Overview: Front-end Javascript engineer with an emphasis on building and maintaining a custom Javascript data visualization engine for HTML5 canvas. The technology is based on the work of EdgeSpring, the startup where I worked previously which was acquired by Salesforce. Our startup formed the basis for a new SalesForce Cloud called Analytics, and we recently launched our product, Wave, at DreamForce 2014. After acquisition it has been my role to onboard new developers as the team grew from time of acquisition (myself and our Chief Architect) to more than twenty front-end developers. I have built new visualizations and

enhanced our existing visualization library with more dynamic and interactive charts. I test code through both unit tests and UI tests. Our UI tests are written in Javascript and executed in browser using a testing framework we built in-house based on jQuery Deferred.

Software Engineer, EdgeSpring **August 2012 - July 2013 (Acquired by Salesforce)**

Skills Used: Javascript, Coffeescript, HTML/LESS/CSS, Backbone, Git, Bash, Jira, Scrum

Overview: EdgeSpring was an early stage startup that developed a custom inverted index data store. My role was to develop an analytics application for the web featuring a custom data visualization engine written in Javascript, and an interface for dynamically exploring data sets. Queries ran in browser in a Javascript query engine, allowing us to create dynamic visualizations that responded in real time and animated to reflect any data changes. An early employee of EdgeSpring was Max Bostock, who left the company to create D3.js, a primarily SVG based visualization library. We decided to write ours in HTML5 Canvas for higher performance rendering (no need to manipulate the DOM). SVG however has the advantage of styling with CSS, whereas our designers have more difficulty editing our styles directly in Coffeescript. If I were to start from scratch today, I would consider writing the library using SVG and React, which is highly efficient in manipulating the DOM. If the project required 3D, then I would use WebGL, but unfortunately this causes the same issues for designers as just using Canvas.

Co-Founder, Stampur.com **May 2011 - Jun 2012**

Skills Used: Javascript, CSS, Adobe Illustrator & Photoshop, Marketing and Advertising, Recruitment

Overview: A small team consisting of myself and a few friends built a local social network for our college. The idea was for students to always know what events, big or small, were happening around campus and the city. I developed the concept, designed and implemented the HTML/CSS of the front end. I also designed icons, logos, and the branding of Stampur using Adobe Illustrator and Photoshop. It was an incredibly rewarding experience, but the application never took off in large numbers, so I decided to move back to the Bay Area after graduation to start my career.

PERSONAL PROJECTS

Iteraid (github.com/scottyantipa/Iteraid)
Iteraid is a build server that I wrote in Go with a React front-end. You configure it with a url to a github repo for your web application project. It then continually builds and serves all of the versions of your app so that you don't have to pull and build your colleagues' source code to see their changes. This project has been a big undertaking for me. It was my second project in Go, and third project using MongoDB. We use Iteraid to collaborate on our analytics web

application at SalesForce today. My goal is to add comments and annotation so that everyone in an organization can comment directly on a live version of their application, making feedback and iteration more effective.

Predict (github.com/scottyantipa/PredictClient)
Predict is a sample project that shows off a javascript data visualization engine I wrote. It features multiple rendering layers, built-in animations on data changes, and leverages HTML5 canvas. Technologies used: Node, Express, Javascript, Coffeescript, React, Brunch.

EDUCATION

Mathematics B.S., UC Santa Barbara
Emphasis in Analysis and Topology
Spent one semester through exchange at UC Berkeley Math Department