

Danielle Ahrens

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Experience

Jul 2019 – Nov 2020: Engineering Lead – Biden for President

- I directly managed 3 engineers, informally managed 3 additional engineers, and worked with 4 product managers to scope and plan new products and features.
- I was the technical owner of JoeBiden.com and all microsites produced by the campaign. I scoped and gave technical direction on all new products, features and changes. Through a combination of delegation, pair programming, and individual work, I built the following pages, including HTML structure, JS features, and PHP CMS wiring:
 - JoeBiden.com pages (A WordPress/PHP website): [/joes-vision](#), [/presidency-for-all-americans](#), [/call](#), [/covid19](#), [/votingquiz](#), [/coalitions](#), [/women](#), the sign up form on [/take-action](#), [/trumptaxes](#), navigation bar/hamburger menu redesign, and real-time donation integration.
 - Single page React app (hosted with S3/CloudFront): [MakeAPlan.com](#)
 - Static HTML sites (hosted with S3/CloudFront): [TrumpCOVIDPlan.com](#), [KeepAmericaGreat.com](#)
- Accessibility best practices were used throughout.

May 2019 – Jul 2019: Senior Software Engineer – Biden for President

- I architected, built, and maintained the donation data ETL pipeline which processed data for over a billion dollars of campaign contributions. Containerized and deployed via kubernetes, it included the following components:
 - 3 Extraction microservices. Written with Python, NodeJS, and Groovy, these services pulled data from multiple vendors via SFTP, API calls, and puppeteer to get CSV downloads. Data was GPG decrypted, sanitized, and loaded into AWS Redshift Spectrum.
 - 1 Transformation microservice. Written in Python this service ran SQL against AWS Spectrum Redshift tables, standardizing the data from the various vendors.
 - 1 Load microservice – written with NodeJS, this service utilized a vendor's API, Puppeteer, and AWS S3. It included extensive monitoring with statsd/InfluxDB/Grafana, and SES email summaries.
- I architected, built and maintained a donor vetting service. Written in Python, it identified likely lobbyists and oil/gas executives amongst our donors. Architected with AWS S3 and Lambda, it used a MapReduce model to find matches in a stream of millions of donors in real time.
- I built new features for our custom peer-to-peer texting platform which involved writing new front-end features in the React Redux UI and optimizing SQL queries to address bottlenecks in the Ratpack/Groovy API, allowing the platform to send 10 million texts per day.
- I supported and maintained an HTML5/Canvas image manipulation app, [Avatar.JoeBiden.com](#)

Personal Project

I architected, built, deployed, and open-sourced an IoT web platform for monitoring my home. It includes a React UI, IoT sensors with firmware written in C, a Python Flask web app behind an nginx reverse proxy, InfluxDB, and a document database all of which runs in Docker.

Skills

Applications built using Python and JavaScript; data processing using SQL; web development using React and PHP; Additional web frameworks used such as Flask; Application container deployment using Docker and Kubernetes; VM deployments using Travis, Spinnaker, and EC2; and serverless with Lambda. Many AWS services utilized (EC2, Lambda, S3, SES, DynamoDB, Glue, Spectrum/Redshift, IAM, API Gateway, CloudFront, Route 53). Project management and team leadership.

Education

May 2014 - Michigan Technological University
B.S. Biomedical Engineering, Minors in Polymer Science and Nanotechnology