

# David Harper

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<https://www.freeformflow.com>

## Summary

I'm a full-stack Web developer with a broad and cross-discipline background. I've dedicated my career to improving distributed computing for everyone, developers and non-developers. I've worked for big companies, startups, and small shops across many domains: Architectural design, UX components, social network integration, and more. I work well with teams or solo if you're looking for a fixer.

What can I do for you?

## My Specialties

- Distributed Architecture
  - My experience is deepest with serverless infrastructure and its automation
- Interface Design and Safety
  - I'm the primary author of [Panda-Confidential](#), a library designed to make cryptographic operations in the application layer much less stressful.
- AWS Services
  - Especially CloudFormation, CloudFront, Lambda, DynamoDB, and S3
  - I've worked with over 20 services, so I'm familiar with the process of getting to know a new one's personality.
- Open Web APIs
  - I'm familiar with JavaScript / CSS / HTML APIs and the fundamentals they represent
- Technical Writing
  - I mean both important styles: easing someone into a topic with [examples](#) versus providing [reference documentation](#) for when they know what they're looking for.

## Languages, Preprocessors, and Frameworks

- JavaScript / CSS / HTML
- Svelte / Vue / React / Angular
- Node.js

## Experience

### Initiative for Digital Public Infrastructure

<https://publicinfrastructure.org/>

Web Developer (Contract) [January 2023 - Present]

I designed and implemented the front and backend of Gobo, a social media aggregation and research platform, currently in private Beta. I integrated with Twitter, Reddit, Mastodon, and Bluesky. I also completed a reference implementation for the [Redditmap](#) data visualization project.

## HomeRoom

<https://homeroom.club/>

Head of Engineering [February 2022 - October 2023]

I combined serverless architecture techniques with no-code tooling to deliver cost-effective product development. I designed and implemented Harmony, a system that orchestrated interactions among Discord, Xano, WeWeb, Outsetta, Azure Identity, and custom serverless components in AWS.

## Little Universe

<https://www.littleuniverse.com/>

Web Developer (Contract) [June 2021 - February 2022]

I designed and implemented an automated deploy pipeline using Pulumi, GitHub Actions, and DigitalOcean. I designed an email templating system that allowed team members with less coding experience to build sets of transaction emails. I built a constraint-solving engine to match citizens with government programs offering grants and rebates for green vehicles.

## Disney

Web Developer (Contract) [November 2019 - May 2020]

I implemented a sophisticated UX component library per the group's design specifications. We aimed to install these components into internal interfaces used by many thousands of Disney employees. I satisfied exacting accessibility, safety, and performance constraints in my implementation.

## DashKite

<https://dashkite.com/>

Co-Founder [March 2018 - Present]

I'm a Co-Founder of DashKite. We're focused on research for next-generation technologies that build on the Open Web and are geared toward nocode developers. We've pioneered new techniques in serverless architecture, graph databases, Web Components, and cryptographic interfaces.

This work is a major part of my expertise with serverless infrastructure and my familiarity with AWS Lambda, DynamoDB, S3, ALB, SQS, SecretsManager, CloudFront, and more.

## Panda Strike

<https://pandastrike.com>

Web Developer [April 2014 - Present]

Panda Strike is a technical staffing firm that's connected me with contract work over the years, particularly my projects among different divisions within Disney. I came to Panda Strike as a novice, so below, I'll group several projects I worked on during my more junior years.

- I built a Node.js microservice focused on user-generated image and video processing for Disney Interactive.
- I ported that service to Python as part of Disney Interactive's move to Google Cloud Platform
- I implemented a dozen third-party integrations with the Shop Disney e-commerce platform as part of its 2017 reboot.

- I prototyped a front-end automated build pipeline for Mattel
- I conducted in-house research projects, including WebRTC-powered chat, container cluster orchestration tooling, and serverless static publishing.

## Caltech - Goddard Group

Graduate Student [July 2010 - June 2012]

While completing my undergraduate degree, I developed an interest in computational chemistry. I entered a Ph.D. program to pursue that interest further. While I value the experience, I decided to exit the program early and pursue commercial software development.

- I explored options to extend eFF, the Goddard group's coarse-grained, large-scale model for quantum simulations.
- I contributed to a recalibration of ReaxFF, the Goddard group's reactive force field for classical simulations.
- I built a polymer physics simulation to analyze proprietary latex compositions for Dow Chemical

## Education

BS, Chemical Engineering (emphasis computational chemistry) from Clemson University, 2010.