

NATHAN BLOOMFIELD

Creative Technologist | Frontend Engineer

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LinkedIn: [linkedin.com/in/bloom510](https://www.linkedin.com/in/bloom510) | Portfolio: Bloom510.github.io | GitHub: github.com/bloom510

Product-focused full-stack developer with a background in creative arts and customer services. Thoughtful, efficient communicator who works well with diverse teams—both remotely and in-person. Enjoys building out personal projects, picking up new technologies and exploring the JavaScript ecosystem.

TECHNICAL EXPERTISE

JavaScript (ES6) : Node.js, Express, jQuery, React.js. • Databases (MySQL, MongoDB) • WebSockets (Socket.io) • HTML5 and CSS3 • Python (Django) • Server-side development (MERN Stack) • CSS/UI Libraries (Bootstrap, Materialize) • REST • JSON • Canvas • WebAudio API • WebRTC • Electron

WEB APPLICATIONS BUILT

Pads | [Link to demo](#) | Private repo, code available on request

- A lightweight performance utility for digital and mixed-media musicians that contains several touch-responsive digital instruments built in React
- Built out a touch-responsive isomorphic keyboard
- Used music theory knowledge to enable scale highlighting for various pitch sets on the keyboard as visual aid
- Programmed in synthesizer and sampler capabilities to the keyboard using the Web Audio API
- Built out a touch-responsive sampler that enables WebRTC direct-in recording and file uploads
- Used Flux architectural style to keep track of app state
- Processed file uploads to blob objects and visualized audio waveforms
- Enable pinch-zoom and cropping on waveforms for highly accurate sound slicing capabilities

Vedic | vedic-bloom.herokuapp.com | Private repo, code available on request

- Vedic allows producers to mine for generative musical sequences and convert them to MIDI for use in any digital audio workstation.
- The idea came from a theoretical exploration initially carried out by hand
- Leveraged music theory NPM libraries, Vedic math and modular arithmetic concepts to algorithmically generate elegant musical sequences
- Protected proprietary algorithm on the server using Socket.io
- Tech stack: *Node.js, Electron, jQuery, Web Audio API, Socket.io*

PitchCanvas | <https://bloom510.github.io/PitchCanvas/index.html> | [GitHub Repo](#)

- Used JavaScript with an object-oriented approach and HTML5 Canvas to render a 12-dotted circle to the screen with each point stored in memory as a discrete entity.
- Create an interface to draw lines from point A to point B, and so on, in addition to more nuanced drawing utilities.

StockGEN | <https://youtu.be/5PtsaH-ALoA> | Private repo, code available on request

- StockGEN follows extremely shrewd investment funds. At the push of a button, StockGEN assesses the user's desired risk profile. One can find top-holdings of top-performing hedge funds, their conviction bets, and their newest positions.
- Responsible for transforming the app architecture from a conceptual diagram to a finished product.
- Used Node.js to consolidate financial information from multiple feeds
- Configured and stored data in Firebase, minimizing expensive AJAX calls.
- Fed information through Materialize framework on the client side, displaying organized financial advice based on user risk profile.

ADDITIONAL EXPERIENCE

Philz Coffee | Barista | Berkeley, CA | June 2017 - PRESENT

Serving up legendary pour over with a team dedicated to superior customer service.

Riverdog Farm | Market Assistant | Berkeley, CA | 2012 - 2016

Riverdog grows their produce in the Capay Valley, a world-renowned climate conducive to growing nutrient dense, delicious foods. I was a part of the Saturday market team in Berkeley for a number of years.

EDUCATION

University of California, Berkeley Extension | Berkeley, CA

October 2017 - April 2018

Professional Certificate in Full Stack Web Development

California Jazz Conservatory | Berkeley, CA

2013-2016

Baccalaureate candidate for Jazz Studies on guitar.

AWARDS

University of California, Berkeley Extension | Berkeley, CA

April 2018

Most Disruptive App - Awarded for StockGEN