

# David E. Martínez

Software Engineer



## About

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## Languages

TypeScript JavaScript C  
HTML CSS

## Runtime Environments

Node.js NW.js Deno  
Electron Firefox  
Webkit-based Browsers  
Chromium-based Browsers

## Databases

MongoDB Redis  
CouchDB IndexedDB  
Firebase SQLite  
PostgreSQL

## Frameworks & Libraries

Express React Solid  
PouchDB Xel BigFloat  
React Native Gatsby  
JSDoc Open API Mobx  
Material UI

## Tools

Git VSCode  
Browser DevTools  
IDE Debuggers Nginx  
Module Bundlers Babel  
ESLint Clang-format  
Prettier Unix

## Summary

A seasoned programmer with 8+ years of experience in professional application and web development. A problem solver at heart, I started my programming journey as a hobbyist at 12 with the C language. Ever enthusiastic about computing and eager to explore new frontiers and find better ways, I have developed a diverse skill set that includes expertise in JavaScript, TypeScript, Node.js, React, and related technologies and tooling, as well as hands-on administration of infrastructure for servers and fault-tolerant distributed databases. I can work with high-level abstractions and simultaneously possess a solid understanding of the inner workings of systems. I have a proven track record of my abilities in designing, developing, and maintaining programs ranging from desktop apps and backend services to web frontends, as well as all kinds of seamless integrations, including blockchains and smart contracts. I enjoy creating elegant solutions and am eager to find the opportunity to apply my talent and expertise to the creation of a good product.

## Experience

### Application Developer

TypeScript NW.js PouchDB CouchDB Solid Xel

Working on a couple of commercial closed-source applications based on the NW.js runtime, the Solid reactive JavaScript UI library, and PouchDB.

02/2022 - Present

### Blocksize

#### Application Developer

TypeScript Node.js React Electron Firebase Mobx DeFi cryptocurrency Ethereum

- Maintaining and improving a multi-cryptocurrency wallet with an integrated P2P exchange order book, based on the Electron runtime and a single page application made with React, Typescript, a Firebase real-time database, and Mobx observers for reactivity.

- Writing code to interact with smart contracts on the Ethereum blockchain and/or the Binance Smart Chain.

08/2021 - 02/2022

### Pinny App

#### Application Developer

JavaScript Node.js React React Native

- Developed a React Native application.
- Maintained Node.js microservices.
- Developed a React.js back office application.

05/2020 - 11/2020

### Blocksize

#### Application Developer

Node.js React TypeScript Electron Firebase Mobx D3.js DeFi Cryptocurrency

- Maintained and improved a multi-cryptocurrency wallet with an integrated P2P exchange order book. The application was a real-time Electron application built with React, TypeScript, Firebase, and Mobx.

- Implemented a technical analysis chart for the order book using D3.js.

05/2019 - 02/2020

### True North

#### Sr. Software Engineer

JavaScript Node.js Apigee Auth0 PostgreSQL

- Maintained multiple microservices written in Node.js.
- Conducted research and developed a proof of concept for integrating Auth0 and Apigee with the application.

11/2018 - 05/2019

### HUMBER

#### Sr. Software Engineer and System Administrator

JavaScript Node.js React Express Swagger MongoDB Redis Socket.io Angularjs  
Amazon Web Services Nginx

- Maintained and improved a Loopback backend, eventually replacing it with a newly programmed Node.js backend made with Express and Swagger.

03/2018 - 11/2018

## Languages

Spanish (Native Speaker)

English (Bilingual)

Italian (Basic)

- Developed a customer service chat applet using Socket.io to improve communication between staff and clients.
- Improved performance by replacing a questionable MongoDB geo tracking workflow with a Redis geospatial cache, reducing the DB size from 30GB to 450MB, thus making it far more viable to have daily backups and proper clustering. That single collection abused many unnecessary indexes to make it work, with the side effect of very frequently bursting into peaks of CPU and RAM usage that froze the entire EC2 VM instance.
- Set up a MongoDB replica set for redundancy and uptime. The offending collection was no more, but even if it was, with this the DB wouldn't be able to crash the rest of the system in the future.
- Replaced a slow Angularjs back office application with a new one written in React from scratch.

### Droguería Farmasun

12/2017 - 08/2018

Web Developer

JavaScript Node.js MongoDB Express Angularjs Swagger Redis

Worked as a Computer Programmer at Farmasun, where I was responsible for the maintenance of the company's Angularjs back office application and Node.js backend.

### CIOM

06/2017 - 11/2017

Web Developer

JavaScript Node.js MongoDB Redis

- Refactored the Node.js backend of the company's system.
- Created server endpoints for various functions.
- Developed frontend views using React.

### EducaciónIT

04/2017 - 10/2017

Computer Science Teacher

JavaScript Node.js MongoDB ES6 Concurrent Programming RESTful Web Services

Swagger Socket.io

- Taught courses on backend web development and database management using Node.js and MongoDB.
- Covered topics such as Socket.IO, ES6, concurrent programming, and RESTful web services.
- Introduced students to open-API (Swagger) and RESTful services.
  - Led discussions on asynchronous programming.

### Ninety.io

04/2017 - 06/2017

Software Engineer

JavaScript Node.js Dialogflow Amazon Web Services Twilio Slack Redis

- Developed a Node.js webhook that integrated a Dialogflow natural language chatbot into the platform, allowing users to manage their company's teams via Twilio SMS and Slack as an alternative to the web dashboard.
- Utilized Redis and AWS to support the chatbot's functionality.
- Worked with artificial intelligence techniques to improve the chatbot's language processing capabilities.

### TuSegurodeViaje.NET

08/2016 - 02/2017

Web Developer

JavaScript Node.js MongoDB Express Microsoft SQL Server Angularjs Swagger Redis

- Development of scripts to automate database migration from Microsoft SQL Server to MongoDB.
- Craft of a Node.js server (using Express.js) with a public API documented by a Swagger specification to replace the old ASP.NET backend.
- Implementation of an Angularjs back office application.

### Appen

07/2016 - 08/2016

Social Media Annotator - Facebook SRT

Social Media Content Moderation Machine Learning Search Engine Optimization

- Review and evaluate social media content.
- Annotate and categorize content according to guidelines.
- Provide feedback to improve content relevance and accuracy.
- Understand how social media platforms display content.

### Appen

02/2016 - 08/2016

Freelance Translator

Translation Machine Learning

- Translate various written materials from one language to another.
- Ensure translations are accurate and idiomatic.
- Proofread and edit translations for quality.
- Stay up to date with translation techniques and technologies.

### Lionbridge

04/2012 - 10/2012

Internet Assesor

Search Engine Optimization Machine Learning Search Engine Results

- Evaluating the quality and relevance of online search results.
- Using a set of guidelines to determine whether websites and other online content meet certain quality standards.
- Providing feedback and recommendations to improve the relevance and accuracy of search results.
- Working with one of several search engines, such as Google, Bing, and Yahoo.
- Understanding how search engines rank and display search results.

## Projects

**NW.ts-Tools** · <https://www.npmjs.com/package/nwts-tools> 10/2022 - 10/2022

NW.js TypeScript Code Protection Application Packaging

A toolkit for running, compiling, patching, and packaging NW.js apps. Features include the ability to replace the FFmpeg library originally included with NW.js, download a fresh copy of NW.js and package it alongside a built application, and compile JavaScript files into .bin files for source code protection.

**Quorum Space Recorder** 02/2022 - 02/2022

NW.js TypeScript Solid PouchDB Twitter Twitter Spaces YouTube Twitch

Live Streaming

Desktop application that allows to simultaneously capture Twitter Spaces conversations and save them to disk or broadcast them as live streams to YouTube, Twitch, and other services.

**Bigfloat** · <https://www.npmjs.com/package/bigfloat-esnext> 03/2019 - 03/2019

JavaScript TypeScript Bigfloat Bigint Decimal Arbitrary Precision

A library for arbitrary precision decimal floating point arithmetic, allowing exact representation of all decimal fractions. This implementation builds on ES native bigints and offers a functional-style approach with a set of functions, a BigFloat class with an API similar to Decimal.js, and an evaluate() function for parsing and resolving expressions. Bigfloat is useful for improving the precision of arithmetic operations in applications where precise decimal representation is important.

**Bigfloat for Deno** · <https://github.com/davidmartinez10/bigfloat-deno> 10/2019 - 10/2019

Deno JavaScript TypeScript Bigfloat Bigint Decimal Arbitrary Precision

Deno port of the Bigfloat library.

**use-pouchdb-collection** · <https://www.npmjs.com/package/use-pouchdb-collection> 04/2022 - 04/2022

React PouchDB CouchDB React Hook Reactive Programming

Developed a React hook that automatically subscribes to changes in a PouchDB collection and triggers re-renders, making it suitable for real-time or offline-first applications utilizing the CouchDB replication protocol.

## Education

**Fundación Proydesa** 01/2016 - 06/2017

Cisco Certified Network Associate (CCNA) · LAN/WAN Telecommunications & Administration

**EducaciónIT** 12/2016 - 02/2017

Node.js & MongoDB

**EducaciónIT** 01/2017 - 03/2017

ReactJS

**EducaciónIT** 01/2017 - 03/2017

Advanced Node.js Architecture