David E. Martínez

Senior Software Engineer

About

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Expertise Areas

Application Development

Cross-Platform Development

Utility Development

Library Development

Web Development

Web Performance

Web Crawling

Web Scraping

Codebase Migration

Microservices

RESTful APIs

Chrome Extensions API

Database Management

System Administration

Networking

Virtualization

Blockchain Integration

Crypto Wallets

Web3 & DeFi

Languages & Protocols

TypeScript JavaScript C
Bash HTML CSS JSON
YAML XML TCP UDP
RTMP SSH WebSocket
HTTP HTTPS

Platforms

Windows Linux Unix
MacOS

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

Senior Software Engineer
02/2022 - Present

Library Development Cross-Platform Development Application Development Web Crawling Chrome Extensions API NW.js TypeScript Solid PouchDB YouTube API FFmpeg Xel

Working on my own projects –some of which are described under the Projects section–, including the Twitter Spaces Recorder, an upcoming livestreaming studio for content creators, as well as a number of open source libraries and command line utilities.

Blocksize
08/2021 - 02/2022

Senior Software Engineer

Application Development Cross-Platform Development Node.js React TypeScript Electron Firebase Mobx D3.js DeFi Crypto Wallets Data Visualization Blockchain Integration

· 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. Support for multi-sig. Integration with the blockchain to support burning, creating and transferring tokens.

Pinny App
05/2020 - 11/2020

Application Developer

JavaScript Node.js React Native MongoDB Redis Open API Microservices

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

Blocksize
05/2019 - 02/2020

Senior Software Engineer

Application Development Cross-Platform Development Node.js React TypeScript Electron Firebase Mobx D3.js DeFi Crypto Wallets Data Visualization

· 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.

True North
11/2018 - 05/2019

Sr. Software Engineer

Application Development JavaScript Node.js Apigee Auth0 PostgreSQL Open API Microservices

Techniques & Paradigms

Algorithms

Distributed Computing

Procedural Programming

Functional Programming

Asynchronous Programming

Eventual Programming

Reactive Programming

Reverse Engineering

Data Structures

Data Visualization

Runtime Environments

Node.js NW.js Deno

Electron Web Browsers

Databases

MongoDB Redis

CouchDB IndexedDB

Firebase SQLite

Frameworks & Libraries

Express React

React Native Solid

PouchDB Xel Mobx

JSDoc Swagger

Open API Socket.io

Other Tools

Git VSCode DevTools

Debuggers Nginx Vite

ESLint Clang-format

Prettier SSH Tmux

AWS Google Cloud ZFS

FFmpeg

Languages

Spanish *(Native Speaker)*
English *(C2 Proficient)*

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

HUMBER   *03/2018 - 11/2018*
Sr. Software Engineer and System Administrator

Application Development JavaScript Node.js React Express Swagger MongoDB Redis Socket.io Angularjs AWS Nginx System Administration Data Visualization Distributed Computing

· Refactoring from a Loopback back-end to Node.js with Swagger and Express.
· Chat applet for customer service using Socket.io.
· Improved performance by replacing a MongoDB poorly designed geo-tracking workflow with a Redis geospatial cache, reducing the DB size from 30GB to 450MB, allowing to resume daily backups, enable indexing without filling the RAM, and proper clustering for fault tolerance.
· Set up a MongoDB replica set for redundancy and uptime.
· Replaced a slow and unmantainable Angularjs back office application with a new one written in React.

Droguería Farmasun   *12/2017 - 08/2018*
Web Developer

JavaScript Node.js MongoDB Express Angularjs Swagger Redis

Maintenance of an Angularjs back office application and Node.js back-end.

CIOM   *06/2017 - 11/2017*
Web Developer

JavaScript Node.js Swagger MongoDB Redis

· Node.js codebase refactor.
· Front-end views with React.

EducaciónIT   *04/2017 - 10/2017*
Computer Science Teacher

JavaScript Node.js MongoDB ES6 Concurrent Programming RESTful APIs Swagger Socket.io

· Courses on backend web development and database management.
· Websockets, ES6, concurrency, async programming and RESTful web services.

Ninety.io   *04/2017 - 06/2017*
Software Engineer

JavaScript Node.js Dialogflow AWS Twilio Slack Redis

· Node.js webhook that for Dialogflow-powered natural language chatbot, integrated with Twilio and Slack.

TuSegurodeViaje.NET   *08/2016 - 02/2017*
Web Developer

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

· Migration from MS SQL Server to MongoDB.
· Node.js server with Swagger integration to replace the old ASP.NET backend.
· Angularjs back office application.

Projects

NW.ts-Tools · https://www.npmjs.com/package/nwts-tools   *10/2022 - 10/2022*
Utility Development NW.js TypeScript Application Packaging

A toolkit for running, compiling, patching, and packaging NW.js apps.

Twitter Spaces Recorder   *02/2022 - 02/2022*
Cross-Platform Development Application Development Web Crawling
Chrome Extensions API NW.js TypeScript Solid PouchDB YouTube API FFmpeg Xel

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*
Library Development TypeScript Node.js Deno Web Browsers

A library for arbitrary precision decimal floating point arithmetic, allowing exact representation of all decimal fractions. This implementation builds on JavaScript's bigint type and offers procedural style set of functions, a BigFloat class similar to the Decimal.js class, and an evaluate() function for easily resolving arithmetic expressions.

use-pouchdb-collection · https://www.npmjs.com/package/use-pouchdb-collection

04/2022 - 04/2022

`Library Development` `TypeScript` `PouchDB` `CouchDB` `React Hook`

React hook that integrates with a PouchDB collection and triggers re-renders on data changes, 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 - 03/2017

Node.js & MongoDB · ReactJS · Advanced Node.js Architecture