

David P. Lopez

Miami, FL

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Results driven engineer with an ability to apply strong analytical skills under pressure when undertaking complex assignments to meet tight deadlines while operating with a deep awareness of the bottom line. I am a considerate team member & an active listener who can empathize with others to help build winning teams while working to use my expertise & passion for Mathematics & Computer Science to develop solutions related to software engineering, embedded systems, machine learning, artificial intelligence, & cyber security.

Education

Miami Dade College	A.S. Computer Programming: Mobile Application Development • Related Courses: Objective-C, C++, Java, iOS & Android Development, & MySQL	2018 (expected)
Miami Dade College	A.A. Physics B.S. Computer Engineering • Concentrations: Embedded Systems & Network Forensics & Security • Minors: Physics, Robotics & Mechatronics	2020 (expected)
Microsoft Certificate of Achievement 80542	Customization & Configuration in Microsoft Dynamics CRM 2013	2014
Microsoft Certificate of Achievement 80545	Customer Service in Microsoft Dynamics CRM 2013	2014
Microsoft Certificate of Achievement 80545	Sales Management in Microsoft Dynamics CRM 2013	2014
Udacity Nanodegree	Full Stack Web Development Program • Related Courses: JavaScript, Python, PostgreSQL, AJAX, HTML, & CSS	2017

Licenses, Certifications, & Technical Skills

Programming Languages: C++, Java, Python, JavaScript, jQuery, Objective-C, Ruby

Web Technologies: Node.js, Express.js, AJAX, JSON, XML, HTML, & CSS

IDEs & Dev Tools: XCode, NetBeans, Visual Studio, Eclipse, Android Studio, QT, Atom, SublimeText, SoapUI, DevOps

Version Control Systems: Git

Data Science Tools: TensorFlow, Numpy, Pandas, SciKit-Learn, Seaborn, IPython, Matplotlib

Databases: MySQL, PostgreSQL, SQLite

CRM Systems: NetSuite, SuiteScript, Microsoft Dynamics, Salesforce

CAD Systems/3D Modeling: AutoCAD, Fusion360, AutoDesk Education Expert

Hardware: Raspberry Pi, Arduino

Operating Systems: CentOS, Scientific Linux, Windows, RobotOS

Languages: English, Spanish, Portuguese

Projects

Houston, TX	CFS Command & Data Dictionary Viewer/GUI	2017
<ul style="list-style-type: none">Developed a GUI that interacts with a PostgreSQL database (the CCDD), to allow users to securely analyze the spacecraft command & telemetry data in the CDD (without requiring them to have training on PostgreSQL itself).Developed a scalable backend using Node.js, & Express.js utilizing an MVC Architecture for deployment to additional servers for use by the Orion AA2 team members by following a REST architecture for optimal software reuse.Built an authentication system to allow for multiple users on the application, a Bug Tracking database in PostgreSQL & providing an API to persist data for the project.Completed error checking & debugging of over 10,000 lines of code to ensure the quality of the project requirements to deploy an application that met the quality standards of the Orion AA2 team.		
Miami, FL	SeaBots Augmented Reality Network	2017
<ul style="list-style-type: none">Completed the 3D Modeling, 3D Printing, & Engineering of a network of ROV's & Semi-Submersibles that are capable of cleaning plastic particulates from the ocean & recovering crude oil from the surface of the ocean in Fusion360.Developed an iOS Augmented Reality gaming prototype that allows users to control & engage with the submersibles to provide a platform that allows users to participate in the cleanup & mitigation of large scale global disasters.Developed a web site at www.SeaBots.tech to crowd fund the project to raise money for the complete development of the project beyond the prototype phase.		

Open Source Innovations & Publications

Houston, TX	National Aeronautics & Space Administration (NASA)	August 2017
eNTR: 1499100524 <ul style="list-style-type: none">The vision for the CCDD Web Utility is for it to be released as an Open Source project alongside the Core Flight Software CDD as a member of the Core Flight Software Tool Suite. The CCDD Web Utility will be useful to any CFS project that decides to use the CCDD tool even if it is not a CFS project. Because of the configurability and extensibility, it can be used abstractly by any project team requiring distributed access to persistent data contained inside a CCDD project database.		

Experience

Miami, FL

Visa Latin America

November 2017 – Present

Technical Product Manager

- Subject Matter Expert (SME) for Visa Token Service Cloud Based Cryptographic Payment Platform.
- Responsible for the implementation and integration of Token Requestor-TSP and Issuer-TSP cloud based payment platforms with issuing banks and technology solution providers across Latin America and Europe.
- Completing the functional testing of Google Android Host Card Emulation (HCE) enabled payments consuming Visa Token Service API's using symmetric and asymmetric encryption techniques.
- Building DevOps automation tools in Salesforce and JavaScript that improve the efficiency of the Visa Token Service Integration team.

Miami, FL

MDC STEM Research Institute

April 2018 – Present

Research Fellow

- MDC STEM Research Institute Machine Learning Research - Preprocessing, Modeling, Learning/Training, and Predictions in ML: Pandas, Numpy, Theano, Keras, SKLearn, TensorFlow.
- A Machine Learning Model using TensorFlow to Describe the Market Price of Cryptocurrencies: The Case of Bitcoin.
- <http://davidplopez.com/ai.html>

Houston, TX

National Aeronautics & Space Administration (NASA)

June 2017 – September 2017

Software Engineering

- Designed a Graphical User Interface (GUI) to interact with the CFS Command & Data Dictionary (CCDD), a comprehensive definition of all command & telemetry data used by NASA spacecraft and robotic systems to allows users to intuitively navigate mission critical information.
- Provided a common method of analyzing critical flight data in the CCDD, as well as a method of generating the ".h" & ".rec" files from the CDD that directly benefits current & future NASA projects by providing an abstract method of accessing command & telemetry data.
- Developed integrated documentation and a bug tracking database in PostgreSQL to effectively communicate issues in real-time.
- Built a secure application that eliminates vulnerabilities to cyber-attacks by implementing features that use process arguments to define environment variables via the Linux command line instead of in the source code itself.

Miami, FL

Uribe Construction, Inc.

April 2014 – January 2017

Superintendent/Software Engineer

- Supervised teams of more than 50 tradespeople to construct new ground up facilities & renovation projects throughout the Miami area & designed & developed technology solutions to provide advanced solutions for the construction industry.
- Developed IoT time tracking devices on the Arduino platform using C, that were installed in the team's hard hats, to allow the management staff to employ precise time controls which helped to reduce costs by \$1500 per week.
- Developed a web application that allows the accounting department to communicate with the field staff to determine WIP that must be billed in Real Time using NetSuite (SuiteScript JS Library), HTML, & CSS.

Miami, FL

LCM Group, Inc.

October 2008 – March 2014

Project Manager/General Contractor

- Developed business rules, technical requirements, and business logic for all database systems used by the company to manage, track and record the workflow processes that the company needed to maintain profitability & accountability inside of NetSuite CRM using SuiteScript (JavaScript).
- Successfully designed, engineered, & built the first LEED-certified home to be approved by the Miami-Dade County Building Department as a self-sustainable, environmentally efficient building that produced its own electricity, collected its own rainwater, & recycled its own gray water.
- Wrote software algorithms & built database systems for the existing estimating department that enabled our estimators to work more efficiently & produce more accurate work, which minimized cost overruns on jobs that we were awarded by 5%.

Miami, FL

Island Building Supply, Inc.

June 2004 – September 2008

Operations/Purchasing Manager

- Implemented & customized the NetSuite CRM Suite which included a product database of over 2,000 products using custom pricing matrices, payroll & accounting modules, & an e-commerce portal with an integrated merchant account processor using NetSuite SuiteScript (JavaScript).
- Developed custom estimating applications & data models to automate our pricing procedures & to shorten the learning curve for all new hires in the estimating department by building in-house software using C++ & MySQL in QT.
- Implemented a semi-autonomous rebar fabrication facility using aSa software utilities reducing labor costs by \$25,000 per month. Ensured the sustainability of the operation and trained all new hires in the operation of all autonomous equipment.

Experience

Miami, FL

Turner Construction Company

April 2002 – May 2004

Field Engineer/Assistant Superintendent

- Implemented, & customized \$3mn project management software & databases to manage & control the project workflow by leveraging my understanding of technology to maintain the digital resources of the company.
- Supervised the construction of the Miami International Airport 745B Project: 4-story construction contract to build Terminal B & C valued at \$250,000,000.
- Planned & Coordinated the daily construction operations & acquired the necessary skills as a construction professional to become licensed as a General Contractor in the State of Florida.

Miami, FL

Sage Payments & First Data Merchant Solutions

April 2002 – December 2017

ISO Merchant Services

- Opened merchant service agreements & maintain a portfolio of active relationships with 25 retail establishments in the Miami market that produce an average of \$100,000 in revenue every month.
- Connected secure point of sale device hardware and web-based payment solutions in NodeJS, JavaScript, HTML, & CSS for each account to ensure services were established with no down time for each merchant.
- Reviewed & analyzed merchant account statements & activity to ensure sustainable services were provided to all accounts based on each merchant's individual need.
- Assisted portfolio of merchant account customers in maintaining regular PCI Compliance to ensure against Credit Card & Merchant fraud as required by all merchant account agreements.