# Daniel Lopez

CONTACT

E-mail:
1s16slrse@mozmail.com

## WORK EXPERIENCE

### Farelogix                                              March 2018 — Present

*Software Engineer II*

As a pricing engine developer I develop in the backend using C++. I write new functionality and API calls that are used by Airline customers and support custom features that they may employ.

1. Process and handle large amounts of data that needs to be processed in real time.
   a. Data comes in plain text by ATPCO, the data hub where Airlines publish fare information.
   b. Data gets transformed in our custom internal in-memory database like Redis but implemented only to handle the data we are processing and much more efficiently.
2. Write internal tools to aid in the development using Rust or C++ depending on the needs of the tool.
3. Lead projects and help manage other small developers. Perform code reviews and approve merge requests. Train new employees and conduct interviews.

### Skyline Communications                          August 2016 — March 2018

*Systems Engineer*

As a System Developer I write drivers that interface with telecommunication devices. I sometimes connect to staging and production environments; to test the drivers as well as communicate with the clients on occasion.

4. Visual Studio and internal tools are used to debug and compile the drivers.
5. Wireshark to inspect packets and reverse engineer API calls, in case of lack of API documentation. Or to debug issues with devices that might impact development.
6. Use of SOAP technology including SOAPUI software to test commands with devices before implementing it.

### Florida International University              August 2014 — December 2015

*Student Research Assistant*

Developed a Java web app to help prepare the data for the model. The app also automates the process of running a model; rather than tediously doing this by hand. The Florida Office of Insurance (FLOIR) uses this information to regulate insurance companies from overcharging Florida homeowners. I contributed to a conference paper here that is published in IEEE ICS 2015.

1. Implement frontend using HTML5 and JavaScript ES6 and jQuery for UI framework.
2. Implement backend on an Apache Tomcat server written in Java Servlet pages and using Struts framework.
3. Backend logic executes and automates the tedious process of handling the terabytes of data that calculates the average annual losses (actuarial term for risk). Before the data gets processed, it has to convert the millions

of addresses to latitude and longitude. The data contains address and structural information; the idea is to assess risk; so, addresses are more for human readability. The data is provided by the insurance companies but personal information of the homeowner is not included in the huge data set.
4. Design schemas and run and execute SQL queries in PostgreSQL environment.

SKILLS

- 12 Years Experience With C++ & Understanding of C fundamentals
- 4 Years Experience With Rust
- 1 Year Solidiy Experience
- Some Haskell Experience
- 1 Year Python & Julia Experience
- 1 Year Powershell & Bash/Zsh Scripting
- 1 Year Experience With Microcontroller Development
- Experience With GNU/Linux System Programming.
    - Including kernel module development
- Experience With Microsoft Windows System Programming.

LEETCODE

https://leetcode.com/dlope073/

GITHUB

https://github.com/zulrah93

GITLAB

https://gitlab.com/users/dlope0731/projects

NOTABLE PROJECTS

- Basic DOS Implementation (x86 NASM) (Github)
- Genetic Algorithm Implementation in C (Github)
- Cardano Staking Calculator CLI Tool For Data Sciences Purposes (Github)
- Cardano Staking Calculator (Web Application Written in Rust Depends On CLI)
- CLI Tool To Download All In The Groove Song Packs
- Stepmania Fork (Gitlab)
- Stepmania Leaderboard (Rust Web Application) (Gitlab)

EDUCATION      Bachelors of Science in Computer Science   July 2011 — August 2016

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