Carlos F. Ramirez

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EDUCATION

CORNELL UNIVERSITY
BA in Mathematical Physics
College of Arts and Sciences
May 2011 | Ithaca, NY

SKILLS

LANGUAGES

Python	50K+ lines
Bash	10K+ lines
JavaScript (ES5)	10K+ lines
C	5K+ lines
C++	5K+ lines
Matlab	1K+ lines
LaTeX	1K+ lines
Ruby	1K+ lines
Haskell	Familiar

TECHNOLOGIES

Databases
MySQL • MongoDB • HyperDex
Frameworks
Flask • Express/NodeJS
Version Control & Deployment
Git • SVN • Jenkins CI
Operating Systems
RedHat, Debian, Arch, OS X
Other
ZeroMQ • JSON • YAML
PyPEG (Parser Generator)
Scrapy (Web Scraping Framework)

ADDITIONAL

Fluent in Spanish

INTERESTS

Snowboarding • Skateboarding • Cycling
ITF Taekwon-Do • Chess • Guitar

GROUPS

Cornell Cubing Club (C^3)
Cornell Glowsticking Club (GSC)

EXPERIENCE

FLUIDLY, CO. | Mobile Application Developer
July 2015 - Present | St Louis, MO

- Wrote a mobile application for discovery of beer menus at dozens of locations and growing using the Ionic framework and Angular JS on Apache Cordova, currently deployed to both the Google Play Store and the Apple Store.

BLOOMBERG, L.P. | Financial Software Engineer
Jul 2011 - Nov 2014 | New York, NY

- Took over lead development of **jobqueue**, an event-based distributed system to process the sanitization, storage, and QA of servicer data for over 60,000 securities and growing. Introduced ZeroMQ to improve redundancy and scale up to a network of up to 196 nodes with real-time job control.
- Led development of **remitscript2**, a YAML-based language for extraction of financial data from XLS, PDF, and TXT files in dozens of individual formats. Coordinated with a team of 50 analysts in NYC and Shanghai to develop version-controlled extraction scripts for over 60,000 securities from 25 servicers worldwide.
- Led continuing development of **SixPoint**, a tool which translates procedural CDI payment scripts into a custom format in YAML using PyPEG and NumPY. Ported 2000 securities over to a new cashflow engine and wrote a suite of simulation tests to asses translation quality.
- Worked on **loanscript2**, a 3+TB SQLite/MongoDB database of all historical mortgage loan data in the United States and the code which generates new monthly data from various sources, made available to engine and business teams and terminal clients. Designed and implemented a statistical method to detect incorrect or incomplete loan data, in addition to a numerical approach to "filling in" missing pieces of data to use in cashflow projections.

CORNELL UNIVERSITY | Teaching Assistant, Physics Dept.
August 2008 - May 2011 | Ithaca, NY

- Tutored students taking any of the college's introductory physics courses, covering Mechanics, Electricity and Magnetism, Waves, Optics, and Thermodynamics

RESEARCH

CORNELL UNIVERSITY | Lab Assistant
October 2006 - Dec 2009 | Ithaca, NY

- Assisted *Prof. Tomas Arias* in administering a 48-node open source supercomputer and building of a second 24-node system. Ran density-functional theory calculations through DFT++ with Python and Octave.

FLORIDA INTERNATIONAL UNIVERSITY | Lab Assistant
April 2006 - July 2011 | Miami, FL

- Worked with *Prof. Kenneth Furton* to develop and maintain Java and Excel VBA data analysis software, investigating the chemical composition of human scent.

PUBLICATIONS

[1] A. M. Curran, C. F. Ramirez, A. A. Schoon, and K. G. Furton. The frequency of occurrence and discriminatory power of compounds found in human scent across a population determined by spme-gc/ms. *Journal of Chromatography B*, 2007.