

# Carlos F. Ramírez

cramsoftware@gmail.com | Based in Houston, TX

## EDUCATION

### CORNELL UNIVERSITY

#### BA IN MATHEMATICAL PHYSICS

College of Arts and Sciences

May 2011 | Ithaca, NY

## SKILLS

## LANGUAGES

Python	Very Proficient
Bash / ZSH	Very Proficient
JavaScript	Proficient
C	Familiar
C++	Familiar
Octave/Matlab	Familiar

## TECHNOLOGIES

### Databases

AWS Athena • AWS S3

PostgreSQL • MySQL • MariaDB

SQLite • MongoDB • Redis

JPMorgan Athena

### Frameworks

FastAPI • Tornado • Flask

ReactJS • AngularJS • NodeJS

React Native • Ionic

### Version Control & Deployment

Github • Git • SVN

Github Actions • Jenkins CI

Docker • Kubernetes

### Operating Systems

RedHat • Debian • Arch • OS X

### Other

Amazon Web Services (AWS)

Apache Kafka • RabbitMQ

Pandas • Modin

ZeroMQ • Selenium

## ADDITIONAL

Team management and mentoring

Technical writing and communication

Technical training and teaching

Read, write, and speak Spanish

## RELEVANT EXPERIENCE

### HARTREE PARTNERS, INC. | SR. SOFTWARE ENGINEER

2022 - 2024 | Houston, TX

- Implemented borrowing base models and APIs for lenders aggregating all asset values from 15 ETRM systems, feeding both web and BI frontends. Developed a data processing framework on top of Modin outperforming Apache Beam, speeding up model runs tenfold. Python 3.8 on AWS
- Developed streaming APIs to process and aggregate ETRM data for front and middle office systems. Python 3.8 on AWS using Kafka streams

### JP MORGAN CHASE & CO. | VP. SOFTWARE ENGINEER

2017 - 2021 | Houston, TX

- Led the development team for a web application governing Market Risk trading limits, responsible for both application architecture and feature delivery of a team of 8 developers. Python 2.7 on RedHat Linux through the Athena platform using RabbitMQ, Python 3.6 on K8s using Kafka, ReactJS for frontend in CloudFoundry
- Developed post-trade technology for the FX Cash and FX Options business on the Athena platform processing 1M+ daily trade events. Led the onboarding of exotic FX Options assets to decommission external systems. Python 2.7 on RedHat Linux through the Athena platform using RabbitMQ
- Collaborated with development teams across the bank to migrate to the cloud through the CTO Accelerator Program. Covered everything from CI/CD patterns to microservice decomposition to migration of desktop applications to the web with ReactJS, across CloudFoundry, K8s, and AWS, using Kafka and AWS Kinesis for event-based communication. Designed and ran two-week AWS training programs for engineers of various levels

### RACKSPACE, INC. | SOFTWARE ENGINEER IN TEST

2016 | San Antonio, TX

- Worked on the testing framework and test bank for Rackspace's Oracle BRM billing management system. Improved test throughput enabling daily runs of the system, standardized test data generation for all account/product combinations, and provided an API for other services to use to test BRM. Python 2 on Ubuntu

### MONSANTO CO. | SOFTWARE DEVELOPER

2015 | St Louis, MO

- Developed an agricultural projection application. ReactJS/NodeJS on AWS

### BLOOMBERG, L.P. | FINANCIAL SOFTWARE ENGINEER

2011 - 2014 | New York, NY

- Worked on a cashflow projection engine for structured finance assets, modeling mortgage-backed securities given dynamic forecasted loan repayment scenarios.
- Led development of a system to process the sanitization, storage, and QA of servicer data for over 60,000 mortgage-backed securities. Introduced ZeroMQ to improve redundancy and scale up to 196 nodes with real-time job control. Python 2 on Red Hat 6
- Led development of 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. Python 2 on Red Hat 6
- Worked on a 3+TB SQLite/MongoDB database of all historical mortgage loan data in the United States and monthly update logic from various sources, and aggregation APIs for tech and business teams and terminal clients. Python 2 on Red Hat 6