

# STEVEN A. RAMIREZ ROSA

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## EDUCATION

University of Puerto Rico, Mayaguez Campus (UPRM), Mayaguez, Puerto Rico  
Bachelor of Science in Software Engineering

Graduation Date: Dec 2022  
GPA 3.41/4.00

## PROFESSIONAL EXPERIENCE

### Department of Computer Science and Engineering, Lehigh University

Remote

*Undergraduate Researcher*

June 2021-August 2021

- Investigated compiler techniques for advanced synchronization on multi-core CPUs
- Further improved the "HybridRing" algorithm's scalability

*Undergraduate Researcher*

May 2020-August 2020

- Designed a new synchronization algorithm "HybridRing" leveraging bit vectors and Intel Transactional Synchronization Extensions
- Developed static transformations in LLVM to reduce instrumentation overhead
- Achieved >7% improvement on common transactional memory workloads

### CTO Cloud Architecture and Technology Strategy, Bank of America

Charlotte, North Carolina

*Cloud and Advanced Technologies Analyst*

June 2019-August 2019

- Completed End-to-End Tools Governance process for 100 use of Non-Core Technology requests
- Detected and fixed 128 errors in 2 systems of records
- Prevented a substantial amount of audit fines

### Student Design Competition (SDC), UPRM

Mayaguez, Puerto Rico

*Computer and Electrical Departments Leader*

August 2019-May 2020

- Designed, developed and tested software and hardware using Arduino and OrCAD of a paper-tower-builder robot
- Led 5 members from two departments
- Prepared and presented a research poster at the university

*Computer Engineer*

August 2018-May 2019

- Developed software and hardware using Arduino and OrCAD of an object transporter robot
- Presented a research poster at the university
- Achieved 16th place out of 56 teams in the 2019 American Society of Mechanical Engineers Engineering-Fest North SDC

## ORGANIZATIONS

### Program for Engineering Access, Retention, and LIATS Success (ePearls), UPRM

Mayaguez, Puerto Rico

*PLTL Leader*

March 2019-May 2021

- Mentored 11 undergraduate students of the ePearls program using Peer-Led Team Learning (PLTL)
- Delivered portfolio, resume and PLTL workshops for 30 students
- Trained 11 new PLTL leaders

*PLTL Leader's Lead*

August 2019-December 2020

- Participated in the coordination of the ePearls PLTL leaders project
- Helped manage 18 PLTL leaders
- Organized portfolio, resume and PLTL workshops

## CONFERENCES

### 29th International Conference on Parallel Architectures and Compilation Techniques (PACT)

October 2020

- Presented the poster "Hybrid Transactional Memory with Just Enough Metadata" in the Student Research Competition (SRC)

## AWARDS

HSF 2021-2022 Scholar

May 2021

ePearls Scholarship

August 2020

HSF 2020-2021 Scholar

May 2020

HSF 2019-2020 Scholar

May 2019

## SKILLS

**Programming Languages:** Java, C, C++, Python, Arduino

**Parallel Programming:** PThreads, CUDA, Intel RTM, OpenMP, MPI

**Web Development:** HTML, CSS, Javascript, React, React Bootstrap, Flask, PostgreSQL, Heroku, Docker

**Artificial Intelligence/Machine Learning:** Pandas, NumPy, Scikit-learn, Keras

**Languages:** Native Spanish, full professional English