

Caleb De La Cruz Paulino

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Education

Carnegie Mellon University, Information Networking Institute, Pittsburgh, PA – Mountain View, CA 05/2018

M.S. in Information Technology (MSIT)

Full tuition scholarship – GPA: 3.92/4

Courses: Distributed Systems, Computer Systems, Cloud Computing, Information Security, Machine Learning, Search Engines

Interesting distributed systems projects:

- *Scalable Service [Java]*: Developed an architecture which scales automatically based on the load. I used a two-level approach in which the lower level servers pull requests from the higher ones. Requests per seconds and queue length were used as signals to perform fast scaling and fulfill constraints in requests timeouts and processing power.
- *Distributed Strong Consistency Server [Java]*: Developed a high performant persistent server, which assured strong consistency while achieving a 7k RPS, being the most performant server in the Fall 2017 Cloud Computing class.
- *RPC Protocol [C]*: Developed an RPC protocol to allow remote file operations. I had to performed serialization of the data including, variable size information and recursive data structures.

Universidad Iberoamericana, Santo Domingo, Dominican Republic 06/2013

Information and Communications Technology Engineering (ICT)

Full tuition scholarship – Magna Cum Laude – GPA: 3.87/4

Thesis: Optimization of passenger clustering using spatial databases

Professional Experience

Ericsson, Mountain View, CA 08/2017 – 12/2017

Student, Practicum Project, Item-item similarity to improve movie recommendation systems.

- Implemented a hybrid supervised machine learning model, using Information Retrieval algorithms and Collaborative Filtering as features, which led to a 30% increase in precision over previous year proposals.

Pinterest, San Francisco, CA 05/2017 – 08/2017

Core Experience Performance, Software Engineering Intern

- Analyzed, proposed, and implemented a project to enable distributed tracing in [www.pinterest.com](#) web servers (Django, Node.js) using the OpenZipkin protocol, a reliable batched communication with Kafka as transport and the currently in place Pintrace server.
- Helped with the Django to Node.js web server migration, by developing the timeout middleware and solving a number of sneaky bugs.

Simétrica Consulting, Santo Domingo, Dominican Republic 02/2011 – 08/2016

Research & Development, Technical Leader (2014-2016)

- Developed a web services network which through a central hub allows any health provider to request services to any Dominican insurance company, automating the entire claiming process.
- Developed a Node.JS/Angular.JS REST abstraction over the Mongo Client to simulate a Frontend/Backend ORM which reduced the time for developers to create standard maintenances and lists from 16 to 4 hours.
- Developed a diagnosis component for dentists, using HTML5 canvas which simulates the mouth and allows them to diagnose through icons the current condition and future treatment of each tooth (*Odontogram*).
- Led a team of fifteen people, among them 10 developers to create four software solutions in parallel.

New Technologies, Coordinator (2012-2014)

- Performed a customer clustering analysis along with a financial firm for a banking institution with 600,000 clients.
- Implemented an automation software (*Test Complete*), which drastically reduced testing time.
- Coordinated and implemented a data migration project for a legacy HealthCare application (*SQL Server - Oracle*).

Universidad Iberoamericana, Santo Domingo, Dominican Republic 09/2009 – 04/2012

Teacher Assistant, Mathematic Department

- Co-Founded the first Mathematical Olympiad inside the campus.
- Assisted college students with their mathematical assignments.
- Analyzed mathematical test results to measure and propose improvements opportunities.

Technical Skills

Programming Languages: Python ♦ C ♦ JavaScript ♦ Java ♦ C# ♦ PL/SQL ♦ T-SQL

Databases: MongoDB ♦ MS SQL ♦ MySQL ♦ HBase

Frameworks / Others: Node.js ♦ AngularJS ♦ React ♦ Android SDK ♦ Map/Reduce ♦ Spark ♦ Kafka ♦ Docker ♦ AWS ♦ GCP