Daniel **Galarraga**

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Education

Cornell University — *Ithaca, NY*

B.S. in Computer Science — *Aug. 2017 - Dec. 2020 (Expected)*

- Relevant Coursework: Object Oriented Programming & Data Structures, Discrete Structures, Systems Programming, Intro. to Analysis of Algorithms, Functional Programming, Numerical Analysis, Machine Learning, Operating Systems, Computer Networks, Large-Scale Machine Learning, Operating Systems Practicum (Fall 2020), Programming Languages & Logics (Fall 2020), Graduate Algorithms (Fall 2020)

Experience

Software Engineering Intern — *Google (Kirkland)*

Deduped Reach Reporting Team — *May 2020 - Aug. 2020*

- Extended a C++ library for an approximation algorithm called HyperLogLog for estimating the size of large sets. The extensions make the algorithm more flexible and scalable. Prototyped the new features in F1, Google's distributed relational database system.
- Constructed Flume and streaming data pipelines for ingesting data into an OLAP database. The pipelines were devised using C++ and SQL.
- Designed and implemented a C++ library for an extension of the HyperLogLog approximation algorithm. The library required the creation of new data types, unit tests, benchmark tests and compatibility tests. The library was prototyped in F1, Google's distributed relational database system.

Engineering Practicum Intern — *Google (Sunnyvale)*

Gmail Intelligence Team — *May 2019 - Aug. 2019*

- Devised a dialog for Hangouts Chat that displays the detailed availability of users who are out of office. The dialog required the use of HTML, CSS and JavaScript.
- Created a cache for Hangouts Chat to reduce the number of requests made to a server. The cache was implemented in JavaScript and involved the use of data structures such as maps and lists.
- Implemented a metrics pipeline for Gmail and Hangouts Chat that tracks the number of times a specific banner has been seen, as well as the number of users who have seen the banner. The pipeline was devised using FlumeJava (Google's MapReduce pipeline framework).
- Integrated user send status into Gmail's Scheduled Send feature. This work involved the use of CSS, JavaScript and Java.

Teaching Assistant — *Cornell University*

Computer Science Department — *Aug. 2018 - Present*

- Worked for two undergraduate courses: Discrete Structures (Fall 2018) & Intro. to Analysis of Algorithms (Spring 2019, Fall 2019, Spring 2020, Fall 2020). Received the Outstanding Teaching Assistant Award for Spring 2020.

Skills

Programming Languages: Python (confident), Java (confident), OCaml (confident), C++/C (confident), JavaScript (familiar)

Technologies: Flume, NumPy, TensorFlow, Pandas, NLTK, BootStrap, Eclipse, Git, Vim

Human Languages: English (fluent), Spanish (fluent), Portuguese (fluent)

Personal Projects

Analysis on FIFA Rankings — *Miami, FL*

Lead Developer — *July 2018*

- Implemented an interactive web framework using Dash and Python that allows users to visualize the rankings of a country's men's soccer team throughout history.
- Developed an interactive bar graph using Pandas & Plotly that shows the top ten ranked teams in confederations chosen by the user.

Tip App — *Miami, FL*

Lead Developer — *June 2018*

- Utilized Android Studio/Java to create a mobile application that computes the tip (taking into consideration the quality of service) for any given bill amount.