

# Ryan Arredondo

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## Highlights

- 7+ years experience with Python; also fluent in SQL, C, JS, bash (+ interest in many more)
- 5+ years experience creating web apps and REST APIs with Django, DRF, Flask, ReactJS
- Experience with cloud platforms (AWS, GCP) and scaling software using Docker, K8s, helm
- Data nerd, w/ significant knowledge in machine learning and neural networks algorithms
- Master's degree in math w/ great communication and leadership skills from 3+ years teaching

## Experience

### Senior Software Engineer [Color Health]

**05/2021 - Present**

- Represented my team's stake as tech lead in x-functional planning meetings for new product lines
- Drafted designs to lay the foundation of internal platforms for lab orders and clinical test results
- Single-handedly fixed a bug in seldom-touched legacy code that leaked secrets from the app configuration causing at least one security incident and several 100 wasted engineering hours
- Helped automate the reporting for infectious diseases to all 50 state health departments with different technical protocols (SFTP, SOAP, REST) and unique interpretations of standards
- Advocate for Python best practices by enabling type checking across our huge monorepo

### Software Engineer [Beatport]

**05/2018 – 04/2021**

- Developed Python REST API to support a large catalog of products at peak 73k requests/min
- Helped re-architect our legacy data ingestion pipeline to use a modern, scalable tech stack, run in GCP, support new delivery standards and continually ingest ~10 TB/week of client data
- Facilitated the migration of our e-commerce store from physical data center to Google Cloud
- Frequently pivoted between many applications and tech stacks: Django, DRF, Flask, ReactJS, MySQL, Elasticsearch, GCP (Pub/Sub, Firestore, Storage), Docker, K8s, Redis

### Python Developer [Siemens]

**10/2017 – 12/2018**

- Took sole technical ownership of a sustainability project to automate linear models for commercial HVAC systems and thereby reduce electricity costs, in some cases, by 30–40%
- Analyzed trend data (using pandas, numpy, matplotlib) to evaluate models for accuracy and identify any defective HVAC terminals that needed repair
- Used Python to generate runtime code in a proprietary language for building technologies

### Python Developer [Whiting-Turner Contracting]

**08/2016 – 12/2017**

- Developed Python software to parse Autocad XML reports and summarize 3D interferences
- Optimized program using timeit and cProfile libraries to decrease runtime more than 50%
- Built Flask web app hosted on AWS for user to run the XML processing jobs remotely

**Lecturer in Mathematics** [University of Colorado, Denver / CCD] **08/2014 – 12/2017**

- Engaged a diverse student body on technical topics in mathematics and statistics through strong communication, organization, and time management skills
- Led a team of math tutors and managed tutor/student relationships at CCD

**Mathematics Research Assistant** [University of South Florida] **05/2010 – 08/2014**

- Designed algorithms (with implementations in Python, C, JavaScript) to compute mathematical properties of graphs with applications in the study of DNA recombination
- Proved several previously unknown theorems in math using advanced mathematical logic

**Continuous Improvement Analyst** [CAE USA] **11/2010 – 08/2013**

- Automated anomaly detection in VBA to plot and export charts for 100s of metrics
- Developed software to conduct internal audits on time reporting data for 500+ employees

## Education

- M.A. in Mathematics (GPA: 3.9/4.0) University of South Florida 05/2014
- B.A. in Mathematics (GPA: 3.7/4.0) University of South Florida 05/2012

## Presentations

- *Command line tips and techniques*  
New Orleans GDG Meetup 04/2021
- *Profiling in Python*  
Beatport internal 06/2020
- *Introduction to Neural Networks*  
PyData Denver Meetup 03/2017
- *A Mathematical Model for Processes of Nested DNA Recombination*  
USF Oktoberfest 10/2013

## Coursework / Certifications

- Quantum Computing Fundamentals Program [MIT xPro] 05/2023
- Machine Learning [Stanford University on Coursera] 03/2017
- Linux Foundation Certified System Administrator [The Linux Foundation] 12/2016
- Data Manipulation at Scale [University of Washington on Coursera] 08/2016

## Publications

1. Ryan Arredondo. Properties of Graphs Used to Model DNA Recombination. Graduate Thesis and Dissertations. <http://scholarcommons.usf.edu/etd/4979/>
2. Ryan Arredondo. Reductions on Double Occurrence Words. Proceedings of the Forty-fourth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Congressus Numerantium 218 (2013), 43–56. <https://arxiv.org/abs/1311.3543>