

# Ashley D'Souza

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■ [Home](#) ■ [Blog](#) ■ [Github](#) ■ [LinkedIn](#)

## Education

### Rice University

2017 - present  
Houston, TX

- BS Computer Science, graduating May 2021, GPA: 3.58

## Work Experience

### OpenStax *Backend Development Intern - Biglearn/Tutor team*

Summer 2019  
Houston, TX

- Built Rails application with automated testing for two Biglearn endpoints (4,000 students/semester)
- Transitioned Biglearn to Aurora Serverless for scalability with load-testing & autoscaling (AWS, AWS Aurora)
- Worked in team of 8 interns to build & pitch note-taking app integrated with OpenStax (Google API, Django)

### Rice University, Dept. of Computer Science *Teaching Assistant*

Fall 2019  
Houston, TX

- TA for Reasoning about Algorithms: lead office hours and discussion of labs, homeworks, and exams

## Software Development Skills

### Programming Languages & Frameworks

- Proficient: Python, Java, C, SQL, Ruby on Rails, Git, Linux, AWS
- Basic: Elm, JavaScript, HTML, React, ReasonML/OCaml, Hasura's Postgres + GraphQL

### Software Design and Testing

- Databases and distributed systems, functional programming, object-oriented design
- Test-driven development, property-based tests, Pytest, JUnit 5 & QuickTheories, RSpec

## Projects

### Lentil - A Web-Based Musician's Feedback Service *Independent Project* [repo](#) [demo](#)

2018 - present

- Develop full-stack application for use by musicians and teachers (ReasonML, React, Postgres)
- Musicians submit recordings and receive feedback on specific points in recording

### Physics Sunset *Independent Project* [repo](#) [demo](#)

2017

- Designed and implemented browser-based interactive graphical simulation of physics problem (ReasonML)

### Hidden Markov Models and Part-of-Speech Tagging (NLP)

2018

- Implemented statistical learning of HMM using training corpus of pre-tagged sentences (Python)
- Used Viterbi algorithm to assign part-of-speech tags to new sentences using trained HMM

### Disease Transmission Analysis from Outbreak Data

2018

- Inferred disease transmission tree from disease outbreak genetic/epidemiological data using RDMST (Python)

### Phylogenetic (Evolutionary) Trees

2018

- Inferred evolutionary tree given DNA sequences for leaf taxa and plausible mutations (Python)

## Awards

### Rewriting the Code *Fellow* [more](#)

2019 - present  
US/Canada

- US/Canada-wide competitive award for females in CS: coaching, networking educational programming

### PyoFuel: Using Python and Pathway Tools to engineer synthetic biofuel *Sole Author* [more](#)

Dec 2016  
Colorado

- Accepted for 2016 Rocky Mountain Bioinformatics Conference (poster session)

## Organizations and Activities

- CSters: Women in Computer Science, Rice University 2017 - present
- CS Club, Rice University 2017 - present
- Society of Women Engineers (SWE), Rice University 2017 - present
- Club Tennis, Rice University 2017 - present
- Music: sing, record, perform, take lessons [soundcloud](#) [youtube](#) 2007 - present