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: 3.41

Work Experience

OpenStax   *Backend Development Intern - Biglearn team*
Summer 2019
Houston, TX

- Built Rails application with automated testing to handle two endpoints for Biglearn (RoR)
- 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

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

- Int'l. Soc. for Computational Biology / 2016 Rocky Mountain Bioinformatics Conference (poster session)

Software Development Skills

Programming Languages & Frameworks
2013 - present

- Proficient: Python, Java, C, Ruby, RoR, Git, Linux, AWS, ReasonML/OCaml, React
- Basic: Elm, Racket, Pyret, Html, Hasura's Postgres + GraphQL

Software Design and Testing
2013 - present

- Typed functional programming, object-oriented design, databases and distributed systems
- Test-driven development, unit & 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)

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