Justin Fan
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Education

Rice University, Houston, Texas *Expected May 2019*
B.S. in Computer Science
GPA: 3.56/4.00
Relevant courses*: Computational Thinking, Algorithmic Thinking, Introduction to Program Design*

Skills

Preferred Languages Java, Python
Tools IntelliJ, PyCharm, Sublime
Other Languages Mandarin and Cantonese

Projects

Adventure Game *Java, Fall 2016*
Designed and implemented a text-based adventure game similar to 'Zork'
- Devised and implemented through functional programming.
- Worked with JSON objects and Java classes for in-game memory representation.
- Experimented with Monadic error handling and Monadic composition.

Part of speech tagging *Python, Spring 2016*
Built a stochastic part of speech tagger based on hidden Markov models.
- Implemented bigram and trigram Viterbi to tag each word in an untagged dataset with 97% accuracy.

Evolutionary tree inference *Python, Spring 2016*
Inferred optimal evolutionary trees for given DNA sequences of different species.
- Determined optimality of evolutionary trees using parsimony scores.

Pairwise sequence alignment *Python, Spring 2016*
- Used dynamic programming to find the optimal global/local pairwise alignment between two sequences.

Disease transmission mapping *Python, Spring 2016*
- Looked at real data of an infection outbreak and determined the most probable disease transmission map through graph theory.
- Worked with rooted, directed minimum spanning trees.

Network resilience analysis/ network partitioning *Python, Spring 2016*
- Analyzed and partitioned a network of Facebook users using the Girvan Newman method.

Stock market predictor *Python, Spring 2016*
- Used Markov chains as a statistical model of stock performance to predict market behavior.

Activities

Member of *Rice Nocturnal,* Rice's premiere a cappella group. *Fall 2016 - present*
Member of *Rice Club Lacrosse* *Spring 2016*
Member of *Rice Student Association* *Spring 2016*