Jonathan Tran

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Education

Cornell University, College of Arts & Science (Ithaca, NY)

Bachelor of Arts in Computer Science, Bachelor of Arts in Statistical Science   Expected May 2021

GPA: 4.091

Related Courses: Introduction to Computing in Python, Object-Oriented Programming & Data Structures, Discrete Structures, Data Structures & Functional Programming, Introduction to Data Science, Machine Learning, Applied Linear Models, Theory of Statistics

Project Experience

Data Structures and Algorithms (Portland, OR)   Aug 2019 - Present

Customizable flash card system with card insertion and deletion, plus search indexing feature

- Brainstorm unique flash card system which allows cards to link together in a network to increase memory retention
- Devise system to track statistics of cards being answered correctly
- Design creative search indexing feature which uses red black tree in order to guarantee logarithmic time access

Object Oriented Programming (Portland, OR)   Jul - Aug 2019

Text based Chess game

- Architected chess game in Python, in the object oriented style of programming, using classes effectively
- Constructed algorithms to correctly detect check, checkmate, draws, and stalemate
- Specified targets and deadlines for different portions of the project to guarantee on time completion

Functional Programming (Portland, OR)   Jul 2019

Fully operational Enigma Simulator written in Python

- Created Enigma machine written in a functional style of programming, focusing on using imperative features of Python including higher order functions and recursion
- Implemented complete plugboard, three rotors, and reflector, as well as stepping motion of the rotors as message is encrypted
- Compiled full test suite to ensure correctness of Enigma machine, including historical and non-historical rotors

Work Experience

Teaching Assistant (Ithaca, NY)   Aug 2018 - Present

Introduction to Computing in Python, Object Oriented Programing & Data Structures

- Host weekly office hours to allow for one on one coding and conceptual help
- Guide students to create independent solutions and debug Python and Java coding mistakes
- Jointly grade labs, coding and conceptual assignments, and exams in a course staff that serves over 700 students

Data Analyst (Ithaca, NY)   Jan 2019 - Present

Elephant Linguistics Program at the Cornell Lab of Ornithology

- Evaluate accuracy of machine learning algorithm that tags elephant rumble sounds
- Employed specialized software such as Raven to analyze and classify elephant sounds, and gained experience in using tools such as Excel
- Pass periodic training tests in order to maintain high accuracy in tagging elephant sounds

Skills

Software/Hardware: Python, R, Java, OCaml, Matlab, Raspberry Pi, Raspberry Pi camera, Arduino

Tools: Git, VS Code, Eclipse, SciKit Learn, NumPy, Pandas, R Markdown, JMP

Activities: Cornell Statistics Applied Machine Learning Team, Ivy League Data Analytics Conference, NAR Level 1&2

Leadership: President of Northwest Quiz Bowl alliance, an organization to promote outreach in quiz bowl in Oregon and Washington through tournaments and social media; Secretary of Cornell Quiz Bowl, VP of Portland Rocketry