NAVRAJ NARULA

Email: nnn2112@columbia.edu   **Website:** http://navierula.github.io   **Twitter/Github:** NavieRula

PROJECTS

Detecting Fake News Headlines
Created binary questionnaire with open-ended forum asking participants to differentiate between real and fake news headlines. Visualized and reported on collected results against KNN classifier built using R.

Generating Poetry with Markov Chains
Devised baseline and advanced algorithm to generate coherent text based off haikus in Python, conducted 74-participant survey that demonstrated an error rate of < 30% on selected outputs.

Analyzing Language in Eating Disorders
Utilized LIWC to obtain pertinent categories in reddits related to anorexia and obesity, plotted correlations using R. Built classifiers using sci-kit learn, returing accuracies of 90% for anorexia-based texts and baseline for obesity-based texts.

Localizing Travel via a Web Application
Built website allowing users to create profiles and list ideal travel destinations using Python, SQL, HTML, and CSS. Displayed data based on user-generated content.

SKILLS

Programming
Python - Java - C - HTML - CSS - JavaScript - R - SQL - Git - Flask - D3.js - Shell - pandas - nltk - OpenRefine - ElasticSearch - Praat

Research/Concepts
Natural Language Processing - Speech and Audio Evaluation - User Experience Survey Design - News and Social Sharing - Technical Documentation

Languages
English - Thai - Punjabi

Leadership
Community Chair - Women in Computer Science at Columbia University

EXPERIENCE

Artificial Intelligence Researcher   Sept 2017 - Dec 2017
Creative Machines Lab - New York, NY
Designed and implemented a persistence algorithm and an autoregressive model using time-series forecasting to predict future movements of a soft, artificial muscle.

Software Engineering Intern   June 2017 - Aug 2017
Quid - San Francisco, CA
Built and deployed website to display info pertaining to Quid's backup system using Docker, Flask, SQLAlchemy, and Python. Examined and unpacked contents of API to create mapping and define settings for indices on Elasticsearch. Wrote test cases to automate checks for an infrastructure engineering task. Presented my work and received recognition for delivering outputs of my code to a client.

Teaching Assistant   Sept 2016 - May 2017
Columbia Engineering - New York, NY
Helped introductory students understand control flow, functional design, and complex libraries using Python, selected as 3 of 10 course assistants to lead lab recitations.

Digital Products Intern   May 2016 - July 2016
MIT Press - Cambridge, MA
Implemented functions in Python script to automate ePub creation, validated parsing errors across XML/HTML documents, bookmarked PDF textbook files, worked with Oxygen XML Editor and Sigil-Ebook platform to run queries and automate test cases.

Data Storytelling Researcher   Jan 2016 - May 2016
BU Hariri Institute for Computing - Boston, MA
Designed taxonomy and implemented a relational database in MySQL Workbench to store info about criminal case reversals, worked with faculty member in journalism dept. to deliver report on functionality of search and how to perform robust queries, received funding from computer science dept. to attend NICAR conference in Spring 2016.

Technical Education Intern   July 2015 - May 2016
Cambridge Community Television - Cambridge, MA
Assisted senior citizens with programming, image/video editing, and general Internet navigation.

EDUCATION

Columbia University, New York, NY   May 2018
Master of Science, Computer Science and Journalism
Thesis: Detecting Human Emotion in Speech and Audio Inputs

Boston University, Boston, MA   May 2016
Bachelor of Science, Computer Science and English Education