Tyson Pond

Springfield, VT | (802) 275-6192 | pondtyson@gmail.com | tysonpond.github.io

EDUCATION

University of Vermont   **Aug 2018 – May 2020**
M.S. Mathematics (GPA: 4.0/4.0)   *Burlington, VT*
- Recipient of the John Kenney Award as the top mathematics graduate student
- Relevant coursework: Convex Optimization, Bayesian Statistics, Linear Models

University of Vermont   **Aug 2014 – May 2018**
B.S. Mathematics (GPA: 3.9/4.0; magna cum laude)   *Burlington, VT*
- Minors in computer science and statistics
- Undergraduate Teaching Assistant for Fall 2017 Numerical Analysis
- Relevant coursework: Data Structures & Algorithms, Machine Learning, Evolutionary Robotics, Statistical Methods (applied, theory), Probability (applied, theory)

PROJECTS

Ice cream data dashboard ([App](App), Github)
- Assessed product performance and identified common complaints for ice cream companies – potentially increasing customer retention – by parsing customer reviews with spaCy and applying NLP methods: n-grams, sentiment analysis, and topic modeling
- Collected all customer reviews (20,000) from four company websites using Python and Selenium for web scraping
- Created interactive visualizations – allowing for product comparison and trend analysis – using Highcharts and R, and built a web application using R Shiny

Twitch.tv recommendation system ([App](App), Github)
- Built a collaborative filtering recommendation system to suggest live streamers to Twitch.tv users, decreasing time spent searching for streams by 50%
- Collected data on 280,000 user-streamer follows, via the Twitch API, to train our model on
- Built a web application and RESTful API using Flask and deployed with Heroku

Information flow in social networks, M.S. thesis (Journal article)
- Developed a novel measure and model of written information flow in online social networks
- Estimated that a user's text can be predicted with up to 95% accuracy using their social ties
- Utilized a Linux cluster and Python to perform large-scale simulations (generating 100GB of data) and collect 30 million tweets to validate our proposed methodology
- Led a team of five international researchers to publish our results

SKILLS

Languages: Python, R, MATLAB, SQL, JavaScript, HTML, CSS
Libraries: Python (pandas, NumPy, Matplotlib, Plotly, scikit-learn, TensorFlow, Keras, Django, Flask, NLTK, spaCy, Selenium, NetworkX), R (tidyverse, Shiny), JavaScript (D3, Highcharts)

EXPERIENCE

University of Vermont   **Aug 2018 – May 2020**
Graduate Student Instructor   *Burlington, VT*
- Independently taught undergraduate math courses to 134 students over four semesters
- Planned lessons, assisted students at office hours, and evaluated student work