Alyssa Nie

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Education

University of Pennsylvania (M&T Dual Degree Program) Expected May 2024
B.S. in Computer Science, B.S. in Economics *GPA: 4.00/4.00*

Relevant Coursework:
Data Structures & Algorithms (A+), Discrete Math, Engineering Probability, Calculus I & II, Linear Algebra (A+)

Experience

Data Science Consultant January 2022 – Present
McDonalds *Philadelphia, PA*

- Built machine learning models (LDA, LSI modeling) for topic modeling and extracting keywords using Natural Language Processing techniques in Python
- Ran models on more than 300,000 data points, creating visualizations on keyword categories. Presented recommendations to reduce consumer attrition and improve loyalty.

Frontend Designer Sep. 2020 – May 2021
Be the Light Youth Organization *Dallas, TX*

- Designed and developed responsive user interface and user experience for primary website, including form-integration and payment process.
- Increased visibility of website from a total of 300 to more than 32,000 views in the span of 3 months

Projects

Neural Style Transfer | *Pytorch, Python, Google Colab, Matplotlib* June 2022 – July 2022

- Used Pytorch to train deep neural networks for neural style transfer from scratch. Utilized ResNets and UNets to create deeper networks with more efficient training.
- In total, implemented 3 different papers, including vanilla Neural Style Transfer, CycleGANs, and Fast NSTs

Matchamaker | *Git, ReactJS, MongoDB, Postman, Cloudinary, Tailwind, Heroku* January 2022 – May 2022

- Fullstack MERN application to pair coffee-chat matchmaking based on user responses (React on frontend, MongoDB and NodeJS on backend)
- Used OAuth to authenticate users, allowing users to fill out preferences. Implemented Edmonds Blossom Algorithm to pair optimal users and update coffee chats weekly.

Gender Differences in Debate Research Paper | *Pandas, Python, Selenium, R* June 2020 – May 2021

- Built datascraper using Python with BeautifulSoup, Selenium libraries to access 5 years of debate records
- Ran logistic regression, cox survival analysis using R across 130,000 data points and 44 variables to examine variables impacting gender differences in loss and attrition
- Reached Top 10 papers list on SSRN for EduRN: Rhetoric & Communication Education, with over 2,000 views.

Myth of Sisyphus Game | *Java, JUnit, Maven, Java Swing* November 2021 – December 2021

- Designed and built a single player game with a fully-featured GUI in Java using the Swing library, design inspired by Camus' essays.
- Implemented inheritance/subtyping and jUnit testing for ensuring proper object interaction in the game.

Technical Skills

Languages: Java, Python, C++, JavaScript, HTML/CSS, R, OCaml
Other Skills: React, Node.js, NextJS, JUnit, Express, MongoDB, PyTorch, Pandas, TensorFlow
Certifications: Coursera Machine Learning, Coursera Deep Learning Specialization

Other

Activities: Joseph Wharton Scholar, Spark Design Club, Wharton Analytic Fellows, Effective Altruism Club, Penn Aerial Robotics