Howard Yen

github.com/howard-yen | howard-yen.github.io | linkedin.com/in/howard-yen/

Education

Princeton University, Princeton, NJ June 2023
GPA: 3.957 out of 4.0, Departmental GPA: 4.0 out of 4.0
Intended in B.S.E. Computer Science, certificates in Robotics and Intelligent System and Statistics and Machine Learning
Coursework: Algorithms and Data Structures, Operating Systems, Computer Vision, Functional Programming
Awards: 2nd Place at Citadel Terminal Live Princeton vs. Penn

Skills

Languages: Native in Chinese (Mandarin) and Fluent in English
Technical Skills: Advanced: Java, Python, C, C++, PostgreSQL; Proficient: React JS, OCaml, R, Figma

Work Experience

Grader, **Princeton University Computer Science Department**, Princeton, New Jersey February 2020 - Present

- Grades the coding assignments for the class COS 226: Algorithms and Data Structures, which has over 150 students per semester and 7 coding assignments in total, each consists of hundreds of lines of code and documentations
- Analyze students' codes for their efficiency, style, and clarity, and provide feedback by teaching them good coding practices and more efficient implementations of algorithms and data structures like Binary Search, Union Find, and Dijkstra's

Machine Learning Intern, **Map My Customers**, New York, New York June 2020 - August 2020

- Worked full-time remotely on the product team to analyze the data collected on the web app and the mobile app since the product launched in 2014, consisting of millions of rows of data, and provided customized reports for customers
- Compiled and preprocessed data from the PostgresSQL database and developed PCA and SVM statistical models with 89% accuracy to predict if users will buy a subscription based on their usage during free trial period
- Analyzed geopoints recorded by the mobile app to design a model that predicts a user's home/office locations and utilized the OpenStreetMaps API to obtain their addresses to help managers track sales representatives' activities

Data Intern, **Happy Harvest**, Shanghai, China June 2019 - July 2019

- Worked full-time in a team of 6 to develop educational software using Python to implement Natural Language Processing (e.g. Stanford CoreNLP, spacy, and NLTK) to help students identify sentence structures and learn parts of speech tags.
- Preprocess hundreds of paragraphs into customizable word/sentence lengths and integrate AWS Polly to convert texts to speech with adjustable playback speed that replaced the need to hire a voice actor to pre record all the voice lines
- Software launched in over 100 schools across China in the 2019-2020 school year

Independent Projects

SPOTIFIND (IvyHacks 2020) October 2020

- Developed a web app with ReactJS frontend and Python backend connected through Flask that uses the Spotify API, browser location, and K Nearest Neighbor algorithm to find people with similar music taste to the user

MANGADEX-DOWNLOAD July 2020

- Utilized the requests, lxml, PIL, and smtplib Python libraries to automatically log users into mangadex.org, search for specific titles, download a selection of the chapters as pdf files by scraping images, and email them to the user

PDFSUMMARY (HackPrinceton 2019) November 2019

- Developed Python script that uses computer vision to parse all the text contents from a pdf file and machine learning algorithms to identify key words and summarize the content and output to a pdf file

Leadership and Extracurriculars

Careers Chair, **Association for Computing Machinery**, Princeton University September 2019 - Present

- Collaborate with companies like Ripplematch and Exponentto deliver talks on career in STEM fields and technical topics
- Practice critical thinking skills, algorithm and data structure optimization through competitions like ICPC

Design and Development Team Member, **RESearch INnovation DEsign**, Princeton University September 2020 - Present

- Conduct user and market research on the course selection process for college students through surveys and interviews to find ways on how to improve students' experience in finding, choosing, and tracking classes
- Work in a team of 5 to develop a course selection web app that integrates calendar, course reviews, and major requirements

Badminton Club, INTERFACE, Princeton PUZZLES, Princeton Minecraft Club