Raymond Chen

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EDUCATION

University of Florida - GPA: 3.79/4.00 Gainesville, FL
Computer Science B.S. December 2024
Relevant Coursework: *Data Structures and Algorithms, Database Systems, Machine Learning, Operating System, Computational Linear Algebra, Software Engineering, Programming Language Concepts, Algorithm Abstraction & Design*

TECHNICAL SKILLS

Programming Languages: Python, C++, JavaScript, Java, C#, SQL, HTML/CSS, R, Unix, ARM, MIPS
Tools and Technologies: React, Django, Linux, AWS, Bootstrap, Express, Docker, Unity, LaTeX, SFML, JUnit, Git, Pandas, NumPy, Seaborn, NLTK, PyTorch

WORK EXPERIENCE

Undergraduate Researcher August 2024 – Present
Food and Resource Economics Department – Dr. Zhengfei Guan *Gainesville, FL*

- Obtained URL of articles about China using NewAPI's HTTP REST API stored into Pandas DataFrame.
- Collaborated with team members to compared methods of Sentiment Analysis: TextBlob, VADER, Transformers.
- Tokenized news content using NLTK and applied DistilBERT transformer to assign sentiment labels and scores to each sentence.

PROJECTS

MoveMate | React, Pytorch, NodeJS, Express, MySQL, Javascript, CSS, Git

- Developed Login form React component to store user's unique credentials in MySQL database.
- Created Board using chessboardjsx integrated with chess.js allowing for move validation, engine integration.
- Calculated optimal placement for each piece type using Negamax algorithm and cached positional bonus table.
- Integrated a chat box with the ChatGPT API to provide personalized chess coaching and interactive banter.

GatorVid | Django, Python, HTML, Bootstrap, Git

- Collaborated in a team of 5 using AGILE methodologies to develop course/club organization software with Django templates combined with view.
- Integrated video streaming and ability to comment utilizing the YouTube API, allowing students to watch and comment on course materials.
- Developed ability to generate motivational quotes using Google's Gemini API with a simple click of a button.

Programming Language Compiler | Java, Junit

- Built a Lexer, Parser, and Interpreter for a custom programming language with 200+ Junit test assessing functionality and reliability.
- Iteratively processed strings character by character to generate tokens, ensuring adherence to grammar specs.
- Constructed an abstract syntax tree from token sequences, validating correct grammar and syntax and facilitating compilation.

IMDB Movie rank | C++, WinForms

- Processed IMDB database of 45,000+ movies extracting title, year, rating, popularity, revenue, and language.
- Engineered a movie ranking system using Quicksort and Merge Sort algorithms in C++, improving search speed.
- Features user-friendly year GUI via Windows Form.

Minesweeper | C++, SFML

- Employed object-oriented methods to enable dynamic resizing of the game board via a configuration file specifying width, height, and number of bombs.
- Utilized a bitmap to represent bombs as 1's and empty tiles as 0's, enabling the calculation of adjacent bombs.
- Developed a recursive depth first search algorithm for revealing empty tiles, halting when encountering a bomb.