Rafael Adricula

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EDUCATION

- **University of California, Irvine**   Irvine, CA
  Bachelor of Science, Computer Science, Class of 2021
  - **GPA: 3.6**
  - **Relevant Coursework:** Computational Linear Algebra, Boolean Logic and Discrete Structures, Discrete Mathematics, Data Structure Implementation and Analysis, Computer Organization, Information Retrieval, Databases, Machine Learning, Operating Systems, System Design, Artificial Intelligence

PROJECTS

- **Large-Scale Search Engine**
  - Used methods implemented by popular search engines today such as inverted indices, bigram indices, and token stemmers
  - Implemented a web-based user interface using the Flask library
  - Parsed and organized over 10,000 pages to make data retrieval of any short query less than 0.6 seconds
  - Utilized the Pickle library to condense search data into objects instead of text files that improved search term retrieval time by more than three seconds on average
- **Chat Client**
  - Created a chat client similar to iMessage that allows up to 10 users at a time to communicate with each other either personally or in chat rooms
  - Utilized multithreading to increase speed at which messages are sent between users
  - Created unique job and message data structures to easily encrypt and decrypt a message sent to another user using sockets and linked data structures
- **Rain Predictor**
  - Participated in a Kaggle competition that provided a dataset that included over 200,000 entries and created a predictor that ranked in the 90th percentile
  - Utilized an ensemble of methods for the best results including neural networks, gradient boost, and decision trees
  - Implemented a weighted system that modified during runtime in order to determine which predictor would yield the most accurate results depending on the data point
- **Stock Market Web Scraper**
  - Implemented a UI that allows users to view history of a specific stock for up to five years
  - Implemented several algorithms that allow users to decide to buy or sell stocks based on previous data
  - Analysis of data sets from the stock market to track trends of opening and closing prices on a given day

EXPERIENCE

- **School of Information & Computer Science Lab Tutor**   Irvine, CA
  ICS 31: Introduction to Programming   *September 2019 – December 2019*
  - Assisted students with programming questions
  - Conducted a weekly report regarding student activity and attendance
  - Proctored exams and monitored students to prevent academic dishonesty

SKILLS

- **Languages:** Python, Java, C++, SQL
- **Programs**: Git, GIMP, Microsoft Office Suite and Google Equivalents, Adobe Illustrator, Eclipse, SPSS
- **Libraries:** NumPy, TkInter, Pygame, JSON, SciPy, Flask, sklearn
- **Soft Skills**: Public speaking, teamwork, focus, attention to detail, discipline, time management, integrity, leadership, learning new concepts