Ananya Kumar

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Skills and Technologies

Languages: Python, SQL, C, C++, Java, JavaScript, HTML/CSS
Libraries: PySpark, PyTorch, TensorFlow, SciKit-Learn, Folium, Keras, NumPy, Pandas, Seaborn, Vaex
Frameworks/Tools: AWS, Google Cloud Platform, Android Studio, Git, Bash, Unix, Jupyter Notebooks

Experience

Definity Financial   **Jan 2023 – Apr 2023**
Software Developer   *Waterloo ON, Canada*

- Designed Python automation framework to read datatables from AWS S3 buckets and Google Cloud storage
- Engineered PySpark microservice to provide thorough datatable comparison **reducing overall run-time by 15X**
- Developed algorithm to match and **compare rows without primary key**, further broadening comparison scope
- Synthesized framework processes into accessible documentation facilitating easy comprehension for all users

Plotly Inc.   **May 2022 – Aug 2022**
Full Stack Developer   *Montreal QC, Canada*

- **Secured a $100K contract** from a major client by devising an algorithm to transform .obj files to 3D mesh plots
- Leveraged principles from calculus and linear algebra to manipulate and rotate the axes of a 3D plot
- **Reduced computation time by 99.94%** by migrating data processing from Pandas to Vaex and NumPy
- Redesigned internal apps for smaller screens using media queries and flexible gridbox systems
- Collaborated on client office hours to debug issues with Redis, Celery, Plotly and Dash Enterprise

Projects

⌨ Coffee Clusters

- Predicted best locations to open coffee shops using K-Means Clustering from **Scikit-Learn** with **88%** variance
- Processed geographical data scraped from Wikipedia with **BeautifulSoup** into 5 clusters based on frequency
- Used **Foursquare API** to acquire **243** shop locations and charted neighborhood clusters using **Folium**

⌨ XYZ Rendering

- In extension of a project field tested at Plotly, manufactured a Dash application to visualize any 3D model
- Enhanced a formula to convert .obj files with **50,000+** coordinates to vectors in ply-csv format using **Meshio**
- Developed a method to simultaneously highlight multiple regions of any 3D model using **Plotly** mesh plots

⌨ Cuisine Connection

- Modeled decision trees with **35 nodes** in **Scikit-Learn** to categorize intercontinental recipes by ingredients
- Final confusion matrix showed a **77%** success rate while predicting origin of recipes from Asian cuisines
- Enhancing the model's performance by evaluating various techniques for normalizing the training dataset

Education

University of Waterloo   **Sep 2021 – Present**
Candidate for Bachelors in Computer Science   *Waterloo ON, Canada*

- Minor in Digital Arts Communication
- **Programming Coursework:** Object-Oriented Software Development; Combinatorics; Data Structures and Data Management; Designing Functional Programs (Adv); Linear Algebra, Calculus III.
- **DAC Coursework:** Digital Imaging; Designing Digital Images and Interaction; Game Design.

Certifications

- ⚲ Data Science Professional Certificate by IBM
- ⚲ AI Engineering Professional Certificate by IBM
- ⚲ Mathematics for Machine Learning Specialization by Imperial College London