Rishi Shah

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TECHNICAL SKILLS

Languages: Python, C++, Java, R, SQL (PostgreSQL, sqlite3), JavaScript, HTML/CSS, Bash, Javascript
Frameworks: Flask, React, Node.js, Django, REST API, jinja2, Material-UI
Developer Tools: Docker, AWS, Git, LinuxCL, Jenkins, JIRA
Libraries: pandas, NumPy, Matplotlib, SciKitLearn, Tensorflow, Plotly

EXPERIENCE

Bioinformatics Developer
Aug. 2020 – Dec. 2020

Ontario Institute for Cancer Research
Toronto, CA

- Updated and integrated a **REST API** in **node.js** with a **PostgreSQL** database for file/data management in the pipeline, increasing **efficiency** of data transfer by **300%**
- Created a **COVID-19 analysis** program to analyze sequenced data while creating a **JSON metrics file, graphs, charts** and a **pdf report** in **Python** and **R**. **Reduced time-to-completion** by **5 hours**
- Designed and produced various **Python, R** and **bash** software to upgrade and **re-implement proprietary** legacy code, leading to **operation times cut** by **50%** and a **25% reduced codebase**
- Worked with **AGILE** methodology, created documentation, reports/tickets in **JIRA**, **Jenkins** tests and **deployed 7** projects to **production**

Bioinformatics Programmer
Jan. 2020 – Apr. 2020

Ontario Institute for Cancer Research
Toronto, CA

- Created and modified **R, Python** and **Bash**scripts to create metrics data from cancer files. Reported data to **4** new **dashboards** and **increased** the **rate of analysis** by **50%**
- Installed cancer research **software** in **docker** containers on **AWS**, using **Amazon ECS**
- Integrated software together to run in a **workflow**using **wdl**, **increasing** the **speed** of the pipeline by **70%**
- Effectively worked on a **cluster** of high performance **computing nodes** in a **LinuxCL** environment

PROJECTS

IMG://REPO | *Python, Flask, Jinja2, Sqlite3, Image Recognition, Colour Processing*
- Developed a **full-stack web application** using with **Flask** serving a **REST API** with **Jinja2** as the frontend
- Implemented a **CRUD database** and login system with **browser cookies** and **authentication tokens**
- Leveraged **image processing** to get the most common colours in the image and used a **machine learning API** to get image characteristics

COVID-19 API & Visualizer | *Python, Flask, Sqlite3, Web-Scraping, Plotly, Pandas, MatPlotLib*
- **REST API** to get data from the **Ontario** and **Canadian government** websites and return **cases, deaths**, etc
- Integrated a backend to return **requests** for data from the API by **date** and **province** through connecting to a **database** and using **dataframe**
- Creates a **pi-chart** and **line graph** of overall cases in provinces and **trends** of new cases/deaths respectively

Purchase Analyzer | *Python, Natural Language Processing, SciKitLearn, NumPy, Pandas, Matplotlib, Geoplotting*
- Integrates a **NLP engine** to distinguish the **categories** of purchases using a **web-scraper** for definition
- Creates a **visual map** which lays out the **transactions** on a geographical map by using an **API** to convert addresses to longitude to latitude
- Generate various **graphs** and **charts** using MatPlotLib and Plotly

Mood-to-Song | *Python, Image Processing, Jinja2, HTML/CSS/JS*
- Implementing the **Spotify API** for getting track suggestions and **metadata** based on the mood of the user
- Leveraged **image processing** to get the **5** most common **colours** in the album art and display them with the results
- Created a **random song generator algorithm** to select 10 tracks which meet the user specifications

EDUCATION

University of Waterloo
Waterloo, CA

Bachelor of Applied Science in Computer Engineering, Honours
Sept. 2019 – April 2024