

Skills:

Programming languages / Tools: Python, PostgreSQL, MySQL, Flask, Git, Unit testing, Linux.

Projects:

EBEAE algorithm implementation:

- Researched EBEAE (Extended Blind Endmember and Abundance Extraction) algorithm in order to implement a Python script and compare it with MATLAB version looking for a similar performance in results.
- Established synthetic datasets of optical measures to validate inputs on EBEAE methodology supported on Numpy and Scipy modules. Subsequently, implemented algorithm with default parameters and computed estimation errors.
- Nevertheless, formulated images with algorithm's output matrices.

Auto-bill generator:

- Computed web automation process based on Selenium. Simplified bill generation on SAT (Servicio de Atención Tributaria) platform from Mexico Government.
- Applied RegEx, tkinter and PyPDF2 modules. Hence, examined .pdf and .txt files to complete tasks.
- Achieved a personal, interactive and timesaving tool.

Blockchain demo:

- Developed website using Flask and Flask-SocketIO.
- Established a peer-to-peer network with websockets to interactively demonstrate blockchain basic concepts.
- Inspired on Bitcoin's data structure.

Distance blueprint:

- Constructed a flask blueprint in order to know distance from an specified address to the Moscow Ring Road.
- Implemented Yandex Maps API to calculate distance between two coordinates and visualize a final result.
- Recorded results into .log file.

Education:

Autonomous University of San Luis Potosi (UASLP), Mexico - Dec 2019

S.B. in Biomedical Engineering

Thesis: Blind linear unmixing algorithm implementation for multi/hyper-spectral images on Python
