

Omar Ali

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Highlighted Projects

EHR Clinical Database Harmonization: Python, SQL, NoSQL, XML, AWS

Melissa Informatics

- Integrated 2 EHR databases and XML content using semantic parsing and normalization December 2018
- Overhauled ETL legacy pipelines for ten-fold scaleup of SQL database size and extensive schema changes
- Remediated data integrity for patient IDs, creating graphics to illustrate data corruption cause and scope

NLP Histopathology Scan Digitization: R, SQL, ML

Melissa Informatics

- Independently wrote prototype for medical file NLP processing, including database loading March 2019
- Used predictive models and matrix algebra to parse content and remediate unstructured medical text
- Compared multidimensional feature clusters and string distance to differentiate medical forms

Image Processing Numerical Integration Application: Python

McC Campbell Analytical

- Identifies features and numerically integrates signal to correct erroneous software calculations August 2018
- Includes UI (OOP-tkinter), automatically generating report using multinomial calibration and OCR

Experience

Code for San Francisco:

July 2019 – Present

SheterTech Team

(Volunteer)

- Critiqued CA Department of Motor Vehicles website through Strike Team directly to DMV executives
- Active member of ShelterTech data science team, supporting website hosting homeless resources in SF
- Participated in data science groups for climate change resource monitoring and campaign financing

Melissa Informatics:

November 2018 – June 2019

Knowledge Engineer (Data Engineer)

Berkeley, California

- Analyzed histopathology scans using R, including ML, NLP, & OCR analysis, preceding database loading
- Utilized Python & SQL to independently troubleshoot high throughput EHR database analysis
- Assisted in team building, including administering technical interviews and training staff

McC Campbell Analytical:

August 2017 – October 2018

Research & Development Analytical Chemist

Pittsburg, California

- Wrote Python image processing program to correct faulty software calculations, including user interface
- Routinely queried data in MS Access-based LIMS relational database, processing data in Excel
- Served as *de facto* technical client consultant, receiving high praise for clear communications

Northwestern University:

September 2016 – August 2017

Quantitative Bio-Element Imaging Center, Research Technologist II

Evanston, Illinois

- Prepared clinical early phase I FDA data validation package, using QC statistics and graphical summaries
- Troubleshoot multi-dimensional data processing from laser ablation optical emission mass spectrometry
- Trained graduate students in data analysis, troubleshooting erroneous instrument data in R

Education

University of Illinois at Urbana-Champaign:

December 2012

Bachelor of Science in Mathematics

GPA: 3.24/4.00

Bachelor of Science in Chemistry

Technical Skills

Life Sciences & Chemistry:

- HR-ICP-MS, LA-ICP-MS
- Light Microscopy
- Aseptic technique
- HPLC, GC-FID
- PCR/PAGE

Math & Statistics:

- Logistic Regression
- ANOVA/ANCOVA
- Model Selection
- Linear Algebra
- Time Series

Software Packages:

- MS Office/Excel
- Virtuoso

Operating Systems:

- Windows
- Linux

Languages:

- MATLAB
- Python
- C/C++
- SQL
- R