Duy Nguyen

U.S. Citizen

Applied Mathematician and Data Analyst with 2 years of experience in developing applications to automate data collecting, data cleaning, data warehousing and data analysis. Proficiency in Python, SQL, R, MATLAB and MS PowerBI. Experience in AWS and Docker. Strong mathematical modelling and analytical skills with a Master in Computational and Applied Mathematics.

✉ duynguyen1993@csu.fullerton.edu

📍 Garden Grove, CA

in linkedin.com/in/duy-nguyen-8155b3b4

📱 (714)-854-4940

🌐 duyanguyen.com/

○ github.com/duynguyen2019

EDUCATION

Master of Arts: Computational and Applied Mathematics
(Academic Honors)
California State University, Fullerton

08/2019 - 01/2021   *GPA: 3.94/4.0*

Courses

- Advanced Linear Algebra and Applications
- Mathematical Modelling
- Machine Learning/ Data Analysis
- Parameter Estimation and Inverse Problems
- Scientific Computing and Applications
- Industrial Project in Computational Applied Mathematics (sponsored by NASA/JPL)

Bachelor of Arts: Applied Mathematics
California State University, Fullerton

08/2016 - 05/2019   *GPA: 3.68/4.0*

PROJECTS

Terrain Coverage Analysis Tool (NASA/JPL)
(01/2020 - 05/2021)
- Modeled and computed the lunar terrain.
- Generated the regional dynamic simulation of the Sun illumination, Earth communication coverage, Lunar Relay Satellite communication.
- Visualized the terrain from a lunar asset including the Line-of-Sight communication, Sun Illumination, and Earth Visibility.
- Developed the Terrain Coverage Analysis Tool (TCAT) to incorporate all mathematical models and delivered it to NASA/JPL. It is still being developed at NASA/JPL to be used for NASA's future missions. This application is written in MATLAB.

Monitoring the effects of BMPs (Best Management Practices) across the U.S. (SCCWRP) (01/2020 - Present)
- Develop the Python application running in a Docker container to pull raw data from the environmental sensors recording the water's level, temperature, and other factors of the soil during dry and wet weather.
- Work with the U.S. Environmental Protection Agency professionals to automate the process of checking the data flags in the raw data (indicating sensor's malfunction) and performing the statistical analysis on the raw data.
- Automate the process of sending the the analyzed data to the cloud's database and the clients.
- Develop a R-Shiny application to provide interactive dashboard for data visualization and data reporting.

CERTIFICATES

Microsoft Certified Data Analyst Associate (In Progress- Expected 07/2021)
Exam scheduled on 07/16/2021

AWS Cloud Practitioner (In Progress - Expected 08/2021)
Exam scheduled on 08/16/2021

COMPUTER SKILLS

- Programming: Python (Pandas, Numpy, Scipy, Matplotlib, etc.), R (R-Shiny, etc.), MATLAB, SQL
- Databases: PostgreSQL/pgAdmin, MongoDB, Extract-Load-Transform (ETL)
- Front-end: HTML, CSS, Java-script
- Visualization: PowerBI
- Version Control: Git/GitHub
- Cloud Computing/Application Development: AWS/Docker

WORK EXPERIENCE

Data Management Assistant
Southern California Water Research Project (SCCWRP)

07/2019 - Present   *Costa Mesa, CA*

Computer languages Used: Python, R, SQL

Achievements/Tasks

- Develop and maintain website applications to automate the process of checking the metadata and lab data submitted by the research and development agencies using Python (Flask).
- Develop and manage SCCWRP's internal databases. Automate the process of pulling the data from multiple database's sources(MS Access, PostgreSQL, ArcGIS, etc.)
- Automate the data quality assurance process using Python.
- Work with SCCWRP's scientists to develop reports and analyses to improve the management of aquatic systems in Southern California and beyond.
- Develop dashboards using R-Shiny to share insights with the clients and researchers from Southern California's wastewater treatment agencies, storm-water management agencies and water-quality regulatory agencies.

Contact: Paul Smith - pauls@sccwrp.org

PROJECTS

Violent Crimes Prediction (05/2020 - 07/2020)
- Obtained data from the University of California, Irvine Machine Learning Repository, performed Explanatory Data Analysis, Principal Component Analysis.
- Used Machine Learning methods (Linear Regression, Neural Network, Ridge and Lasso) to predict the number of crimes in the communities across the U.S.
- Applied clustering to place the communities into low-risk, high-risk groups based on multiple criteria.

AWARDS

Russell V. and Betty L. Benson Scholarship for Graduate Mathematics Students (Spring 2020)
California State University, Fullerton

Sally Casanova Pre-Doctoral Scholar (Spring 2019)
California State University, Fullerton

WORK EXPERIENCE

Mathematics Teaching Intern
Golden West College

01/2021 - Present   *Huntington Beach, CA*
Achievements/Tasks
- Shadow an experienced faculty member—in class, pre-semester preparation, workshops, campus events, committee meetings, etc.
- Create and conduct lessons for Calculus 1 and College Algebra; collaborate with faculty mentor on syllabus building, assignments, and in-class activities; discuss strategies for student success and grading practices.
- Establish and maintain professional relationships with intern cohort, faculty, administrators, and students.

Contact: Dr. Erin Craig - ecraig4@gwc.cccd.edu