Duy Nguyen (U.S. Citizen)

duynguyen1993@csu.fullerton.edu
N/A
www.duyanguyen.com
linkedin.com/in/duy-nguyen-8155b3b4

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

Lunar Terrain Coverage Project (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
- Optimized the transverse path with different criteria: hazard avoidance, sun illumination and earth contact
- Developed the Terrain Coverage Analysis Tool (TCAT) to incorporate all models and delivered it to NASA/JPL

Monitoring the effects of BMP (Best Management Practices) in the U.S. (01/2020 - Present)

- Develop the Python application to pull data from the environmental sensors recording the water's level, temperature, and other factors of the ground during the dry and wet weather
- 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 clients(SCCWRP scientists and Environmental Protection Agency)
- Utilize the R-Shiny package to make a website application which provides interactive dashboard for data visualization

Violent Crimes Prediction (05/2020 - 07/2020)

- Obtained data from the UCI 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 in the U.S
- Applied clustering to place the communities into low-risk, high-risk groups based on multiple criteria such as demographics,

AWARDS/ACHIEVEMENTS

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

TECHNICAL SKILLS

Machine Learning

Regression (Linear, General Linear, Logistic, SVR, Random Forest), Classification (K-NN, SVM, Random Forest, Native Bayes), Clustering (K-Means, Hierarchical), Neural Networks, Monte Carlo Simulation, EDA, Principal Component Analysis, Data Cleaning, Data Manipulation

COMPUTER SKILLS

Python, R, SQL, MATLAB, MS Office Suite, HTML, CSS, Java-script, Git

WORK EXPERIENCE

Application Developer (Data Management)
Southern California Water Research Project (SCCWRP)

07/2019 - Present *Costa Mesa, CA*

Computer languages Used: Python, R, SQL

Achievements/Tasks

- Create and design website applications to automate the process of checking the metadata and lab data that are submitted by the research and development agencies using Python (Flask)
- Design and maintain data systems and databases (PostgreSQL), data collection systems (Survey123, Microsoft Form, etc..), data analytics and other strategies that optimize statistical efficiency and quality
- Provide quality assurance of imported data, work with the research technicians if necessary
- Work with the scientists to develop reports and analysis 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

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