Duy Nguyen (U.S. Citizen)

Seeking an engineering position of Modelling and Simulation Engineer to solve complex problems with application in aerospace

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N/A 📱

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EDUCATION

Master of Science: Computer Science
California State University, Fullerton

08/2021 - Present

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

08/2019 - 12/2020   *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 - 01/2020)
- 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

COVID-19 Mathematical Modeling (01/2020 - 05/2020)
- Built mathematical models to predict the spread of COVID-19
- Investigated the required percentage of population needed to be vaccinated to control the spread of COVID-19 pandemic

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

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

WORK EXPERIENCE

Information Technology Technician
Southern California Water Research Project

07/2019 - Present   *Costa Mesa, CA*
Computer languages Used: Python, R, SQL

Achievements/Tasks
- Write back-end functions for website applications (Data Checker, Data Receipt Generator, Data Change Request,...) to automate the process of checking data submitted by the research and development agencies using Python (Flask).
- Write R-packages to calculate metrics using field and experiment data, write R-Shiny applications.
- Build database schema (PostgreSQL), set up constraints, administer the process of submitting, checking and loading incoming data from Southern California's wastewater treatment agencies, storm-water management agencies and water-quality regulatory agencies.
- Provide IT support

Contact: Paul Smith - pauls@sccwrp.org

Research Assistant
University of California, Riverside

05/2019 - 08/2019   *Riverside, CA*
Computer languages Used: Matlab

Achievements/Tasks
- Investigated the exocytosis-ROP1 Signaling Network in Pollen Tube's Growth
- Constructed the system of differential equations to model the mechanism for the oscillation behavior
- Analyzed the numerical solution of the model using Matlab

Contact: Dr. Weitao Chen - weitaoc@ucr.edu

Instructional Student Assistant
California State University, Fullerton

08/2018 - 01/2021   *Fullerton, CA*
Achievements/Tasks
- Tutored students with all upper-division math classes
- Assisted professors by grading assignments, quizzes, exams in Calculus 1- Calculus 4

Contact: Dr. Tyler McMillen - tmcmillen@fullerton.edu