# Duy Nguyen

U.S. Citizen

Currently hold the final secret clearance (inactive since 07/2022). Programmer and Data Analyst with 3 years of experience in developing web applications and data analysis. Proficient in full stack development and database management. Strong mathematical modeling and analytical skills with a Master in Computational and Applied Mathematics.


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## WORK EXPERIENCE

### Programmer/Statistician

Southern California Water Research Agency

*07/2019 - Present* *3535 Harbor Blvd., Suite 110, Costa Mesa, CA 92626*

*Full-time*

*Achievements/Tasks*

- Developed and maintained website applications to automate quality control data submission processes for research and development agencies. .
- Designed, constructed, and maintained the foundation of an organization's data management system.
- Collaborated with the SCCWRP's scientists to develop reports analyses, and visualizations to improve the management of aquatic systems in Southern California and beyond.
- Developed dashboards using R-Shiny/ Flask app 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*

### Mathematician/Data Scientist

Naval Air Weapons Station China Lake
Department of the Navy

*02/2022 - 07/2022* *China Lake, CA*

*Full-time*

*Achievements/Tasks*

- Researched and developed technologies to deliver advanced, integrated air warfare capabilities to ensure mission success for the Navy and Marine Corps team.

## EDUCATION

### Master of Science: Software Engineering

California State University, Fullerton

*08/2023 - Present*

### Master of Science: Applied Mathematics

California State University, Fullerton

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

### Bachelor of Arts: Applied Mathematics

California State University, Fullerton

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

## COMPUTER SKILLS

- Programming: Python (Pandas, Numpy, Scipy, Matplotlib, Scikit-learn), R, R-Shiny, MATLAB, SQL
- Databases: PostgreSQL/pgAdmin, MongoDB, Extract-Load-Transform (ETL), Automation
- Web development: HTML, CSS, JavaScript, Flask Framework
- Visualization: Qlik/Dash Plotly, ArcGIS API for JavaScript
- Version Control: Git/GitHub
- Cloud Computing/Application Development: AWS/Docker

## PROJECTS

### Terrain Coverage Analysis Tool (NASA/JPL)
(01/2020 - 05/2021)

- Led a team of graduate students to model, analyze and visualize 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.

### Monitoring the effects of BMPs (Best Management Practices) across the U.S. (SCCWRP)
(01/2020 - Present)

- Oversaw project tasks aimed at developing a data analysis and management system utilizing Python and Docker. The system was designed to collect data from environmental sensors monitoring soil factors such as water level and temperature during dry and wet weather conditions.
- Collaborated with scientists and engineers from the U.S. Environmental Protection Agency (EPA) to automate the data flag checking process for raw data, which identifies sensor malfunctions, as well as the statistical analysis performed on such data.
- Developed an automated process to store analyzed data in a cloud-based database and generate reports for submission to the U.S. Environmental Protection Agency (EPA).
- Developed an R-Shiny application to provide interactive dashboard for data visualization.