

# Duy Nguyen

Security Clearance: Secret

AWS Certified Developer with 4 years of professional experience in software development and data analysis. Strong mathematical modeling and software engineering skills with a Master in Computational and Applied Math. Currently pursuing a Master in Software Engineering.

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## WORK EXPERIENCE

### Programmer/Statistician

#### Southern California Coastal Water Research Authority

07/2019 - Present

Costa Mesa, CA

Full-time

##### Achievements/Tasks

- Spearhead the development and ongoing maintenance of website applications aimed at streamlining the quality control data submission process for partner agencies.
- Design, build, and manage the organization's robust data management system, ensuring seamless data handling and storage.
- Collaborate closely with SCCWRP's team of scientists to craft comprehensive reports, conduct data analyses, and create compelling data visualizations.
- Craft interactive dashboards using R-Shiny and Flask applications, facilitating the sharing of valuable insights with clients and researchers from Southern California's wastewater treatment, storm-water management, and water-quality regulatory agencies.
- Demonstrate leadership by mentoring and guiding student interns in the execution of technical tasks to support project objectives.

### Mathematician

#### 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 Science: Applied Mathematics

#### California State University, Fullerton

08/2016 - 08/2019

GPA: 3.60/4.0

## TECHNICAL SKILLS

Programming: Python (Pandas, Numpy, Scipy, Matplotlib, Scikit-learn), R, R-Shiny, MATLAB, SQL, ArcGIS SDK for Python, AWS SDK for Python

Web Development: HTML, CSS, JavaScript, Flask, ArcGIS SDK for JavaScript, AWS, Docker

Databases: PostgreSQL, NoSQL, MongoDB, Extract-Load-Transform (ETL), Automation

Version Control: Git/GitHub

## CERTIFICATION

### AWS Certified Developer (08/2023 - 08/2026)

[https://www.credly.com/badges/ae7ce3bc-8d0a-4be8-87d3-8d0941cb7064/public\\_url](https://www.credly.com/badges/ae7ce3bc-8d0a-4be8-87d3-8d0941cb7064/public_url)

## PROJECTS

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

- Oversaw project tasks focused on developing a data analysis and management system using Python and Docker. The system was designed to collect data from environmental sensors that monitor soil factors such as water level and temperature during both dry and wet weather conditions.
- Worked closely with scientists and engineers from the U.S. Environmental Protection Agency (EPA) to automate two critical processes: one for detecting sensor malfunctions in raw data and the other for conducting statistical analysis on this data.
- Developed an automated process to store analyzed data in a cloud-based database and generate reports.
- Developed an R-Shiny application to provide interactive dashboard for data visualization.
- Link to project: <https://www.sccwrp.org/about/research-areas/stormwater-bmps/>

### 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.