

# Jonathan Nguyen

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## **Education**

**North Carolina State University**, M.R. Computer Science, December 2021

GPA: 3.8/4.0

**North Carolina State University**, B.S. Civil Engineering, May 2017

GPA: 3.2/4.0

**Courses:** Design and Analysis of Algorithms, Automated Learning and Data Analysis, Optimization and Algorithms, Neural Networks, Object Oriented Design and Development, Data Structures, C and Software Tools, Programming Concepts - Java, Database Management Systems

## **Skills/Certification**

North Carolina State University Computer Programming Certificate, May 2020

Languages: Java, C, Python, Ruby, Assembly, MATLAB

Web Technologies: Ruby on Rails, HTML, CSS

Operating Systems: Linux, macOS

## **Projects**

### **Web Application**

Created an eLearning Commerce web application using Ruby on Rails. Implemented backend functionality, such as creating a user, registering for a course, and allowing students to make reviews for teachers.

### **Data Analysis**

Analyzed a data mining problem about Quora Question Pairs Classification, where the goal is to identify which questions on Quora share the same intent as existing questions. Evaluated three different classifiers such as CNN, LSTM, Naive Bayesian to compare the predictions against an evaluation metric.

### **Optimization**

Investigated a project on Horizon Line Estimation, and evaluated ways to improve the algorithms output/efficiency. Tested three different algorithms on the same data set using python, and did quantitative analysis on algorithm formulas, in order to see if the results exceeded previous results.

### **Course Registration Application:**

Programmed a course registration system in java that allows students to register for classes at a university. Implemented functionality for admitted students to register, courses to have waitlists and enrollment caps. Applied object oriented design methodologies and tested using Jenkins.

### **Requirement Management Software:**

Created a requirement management system in java that allows developers to keep track of large requirements and help decide what needs to be implemented and what the priorities are. Coded the functionality for the user to submit, assign, and track progress of each requirement to make sure all tasks can be completed in a timely manner.

## **Work Experience**

**Associate Road and Highway Engineer at Parsons Corporation**

June 2017-August 2020

Raleigh, NC

- Created typicals to match plans, provided detail sheets for retaining walls, and constructed plans for noise walls on a \$350 million design build proposal for Raleigh I-440 .
- Provided QA/QC, created pavement removal sheets, and supplied detail sheets for roundabouts on a \$270 million rebuild of I-270 in Missouri.
- Prepared demolition plans and details for intersections on West Lake Corridor design build pursuit.