

# JONATHAN NGUYEN

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## Education

### North Carolina State University

*Master of Science in Computer Science*

**December 2021**

*Raleigh, NC*

### North Carolina State University

*Computer Programming Certificate*

**May 2020**

*Raleigh, NC*

### North Carolina State University

*Bachelor of Science in Civil Engineering*

**May 2017**

*Raleigh, NC*

## Relevant Coursework

- Design and Analysis of Algorithms
- Optimization and Algorithms
- Neural Networks
- Software Engineering
- Computer Networks
- Data Structures
- C and Software Tools
- Database Management Systems
- Object Oriented Design and Development
- Automated Learning and Data Analysis

## Technical Skills

**Languages:** Java, Python, C, SQL, Ruby, JavaScript, HTML/CSS, Assembly

**Frameworks:** Django, Ruby on Rails, React, Spring Boot, Flask

**Technologies:** Linux, IOS, GitHub, Jenkins, JUnit

**Machine Learning/Data Analysis:** Tensorflow, Keras, Matplotlib, Seaborn, Numpy, Scipy, Pandas

## Projects

### Quora Question Pairs | *Python, Machine Learning*

- Analyzed over 400,000 lines of questions, with the goal to identify which questions that share the same intent
- Implemented feature extraction techniques such as, Bag of Words and Word2Vec, to reduce amount of redundant data
- Tested simple models such as Logistic Regression and Bayesian Classification to get a testing accuracy result of 80%
- Created complex models such as, LSTM and TD-CNN, which achieved a higher testing accuracy of 83%

### eLearning Commerce | *Ruby, Ruby on Rails, PostgreSQL*

- Developed an eLearning and Mentoring System in Ruby on Rails that allows students to register to multiple courses
- Integrated the functionality for students to view courses only that apply to their discipline and add courses to cart
- Reviewed team members code to reduce redundancy, assisted in trouble shooting bugs, and deployed using Heroku

### WolfWR, Database Management System | *Java, MariaDB*

- Designed and built a database system for a wholesale-store chain which maintains all the information of the warehouse
- Properly established relationships enabled users to query, sort, and manipulate data in timely manner
- Assembled the database using Java and completed CRUD components to maintain inventory and transaction records

### Spell Checking Using Hashing Tables | *Java, Data Structures*

- Provided leadership in implementing different hash functions and collision methods to improve efficiency of hash tables
- Used Java to integrate three hash functions and collision resolution methods to test four different hypotheses
- Proved that cyclic and polynomial hash codes produced results that were 20 times faster than additive hash codes.
- Evaluated collision methods and revealed that linear probing has 850 times greater execution times compared to others

## Experience

### Parsons

**May 2017 – August 2020**

*Associate Road and Highway Engineer*

*Raleigh, NC*

- Constructed plans for noise walls, and retaining walls on a \$350 million design build proposal for Raleigh I-440
- Delivered QA/QC, generated pavement removal sheets, for roundabouts on a \$270 million rebuild of I-270 in Missouri
- Prepared demolition plans and detail sheets for intersections on West Lake Corridor design build pursuit
- Calculated estimates for guard rails, pavement removal, and resurfacing so that the client understands of project costs

## General Skills

- Problem Solving
- Organization
- Adaptability
- Self-Motivation
- Communication
- Work Ethic
- Multitasking
- Collaboration