

# Carlos Miguel Sayao

COMPUTER SCIENCE · SOFTWARE ENGINEER

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## Education

### Portland State University

B.S. IN COMPUTER SCIENCE WITH A MINOR IN PHYSICS

GPA: 3.01

Portland, OR

2014 - 2020

## Technical Profile

**Programming** Python, C/C++, Java, PHP, JavaScript, TypeScript, Bash, SQL, PostgreSQL, MIPS/x86, LaTeX

**Machine Learning** Scikit-learn, Keras, Numpy, Pandas, NLTK, Matplotlib, Seaborn

**Web Development/Cloud** Docker, Kubernetes, Node, Express, Flask, Django, React, Google GCE, AWS EC2, WordPress

**Platforms and Tools** Git, Linux, Mac, Windows, Vim, VSCode, JetBrains tools, PDB, GDB, Android Studio, Agile, Scrum, Jira

## Experience

### New Relic

TECHNICAL SUPPORT ENGINEER

Remote, Portland, OR

May 2022 - June 2024

As a New Relic Support Engineer, I assisted a variety of Enterprise customers through their never-seen-before technical issues using the cloud-based observability platform focusing on **Java**, **PHP**, and **Node** applications. To be successful in a constantly evolving technical landscape, we emphasized training, knowledge, collaboration, and customer empathy.

- Collaborate with fellow Support Engineers to creatively and passionately investigate customer problems, while honing technical skills. Investigations often include reproducing applications under specific test conditions.
- Support New Relic customers by solving complex installation, configuration, and data exploration requests.
- Advocate for customers to Product engineers and managers by providing feedback on feature requests and bugs to improve the customer experience. This includes identifying recurring or systemic problems in a monthly product review.
- Contribute to both internal and customer-facing documentation and Knowledge Centered Support (KCS).

### Reddit Post Scheduler <https://github.com/carsayao/reddit-scheduler>

WEB DEVELOPER

Milwaukie, OR

Dec 2021 - Present

A webapp in **Django** to create "content" that can be cross-posted to other subreddits at specified times.

- Use **SQLite** to store User, Content, and Post data.
- Implement Django's generic views for flexibility and brevity.
- Use Reddit API to query and post.

### Personal Client <https://mwtxlawfirm.com>

WEBSITE DEVELOPER

Milwaukie, OR

Sep 2021 - Present

A basic **WordPress** site for displaying information including services offered, an about page, a blog page, and contact page.

- Migrated website to new host.
- Updated look of the website for modern feel and mobile functionality.

### Open Source Mobile City App <https://github.com/jidle/North-Plains-App>

WEB DEVELOPER

Portland, OR

June 2020 - July 2020

Open source **Android** and **iOS** app to mirror a client city's website.

- Designed pages using Ionic **React** Framework and **Typescript**.
- Built rudimentary API calls to fetch JSON and populate pages.

### Analysis of NEAT, PSU <https://github.com/cat-cuatro/NEATProgramming>

MACHINE LEARNING RESEARCHER

Portland, OR

Feb 2020 - Mar 2020

An analysis of the genetic algorithm, NeuroEvolution of Augmenting Topologies (NEAT) developed by Ken Stanley in 2002 at UT Austin.

- Explored and reported on the advantages of NEAT through ablation and comparison.
- Tested the validity of NEAT components, along with compared its performance to Q-Learning.
- Tested components in **OpenAI Gym** environments to test complex decision making.
- Found results consistent to author's claims in research paper.

## Food Delivery App <https://github.com/carsayao/food-delivery>

Portland, OR

DEVELOPER

Jan 2020 - Mar 2020

This **Java** app was made for a class at PSU. It simulates a food delivery app, such as UberEats. My design held a list of orders in a doubly linked list. Each order held a linked list of special requests. The user could manually add or delete orders. The balanced tree was derived from a binary tree. Each restaurant was represented by a balanced tree populated with a list of drivers sorted by their proximity to the restaurant.

- Object oriented design ensures re-usability and code maintenance.
- Wrote own implementations for linked lists, doubly linked lists, binary trees, and balanced trees.
- Reads in a test file and populates data structures with contents.

## Two-layer Neural Network <https://github.com/carsayao/MNIST-mlp>

Portland, OR

MACHINE LEARNING

Oct 2019

Implemented a two-layer neural network in **Python** and **Numpy**.

- Used MNIST dataset with 784 inputs, a hidden layer with variable units, and 10 output units.
- Observed and reported on the effect of varying hidden units, momentum value, and training examples.
- Debugged functions that involved complex mathematical functions and large numbers of inputs.

## Dual-Pi DJ Visual Assistant (Pi-Visualizer), PSU <https://gitlab.com/madelyea/team-visualizer>

Portland, OR

SOFTWARE ENGINEER

Sept 2019 - Mar 2020

Pi-Vis is part of an art installation to be featured at Burning Man. Written in **Python** for a **Debian**-based OS, the multi-threaded program makes extensive use of Socket programming and shell scripting to sync video playback between two Raspberry Pis.

- Managed branches and supervised merges through use of **Git**.
- Wrote communication protocols to be fast and consistent.
- Designed architecture to withstand harsh environments, minimize probability for failure, and provide users with easy interface and deployment.

## Lonr <https://github.com/carsayao/lonr>

Portland, OR

WEB DEVELOPMENT/MACHINE LEARNING

Jun 2019 - Aug 2019

Web-chat app generates Markov models from corpora to simulate conversation with notable comedians.

- Originally written in **Node**, rebuilt frontend using **Flask**, HTML, CSS, Bootstrap for clean, simple look.
- Built backend using Flask-SocketIO to establish low latency two-way communication between client and server.

## Web Development, PSU

Portland, OR

STUDENT GRADER

Sept 2019 - Mar 2020

- Courses covered **HTML5**, **CSS**, **HTTP**, **JavaScript (ES6)**, **Node**, **Express**, **React**, and other various libraries, frameworks, and APIs.
- Work focused on evaluating student assignments and projects.
- Delivered constructive feedback and tips to students struggling with assignments.

## DSHS of Washington

Vancouver, WA

HOME CARE AID

Jan 2017 - Present

## Free Geek

Portland, OR

VOLUNTEER

Sept 2011 - Present