Carlos Miguel **Sayao**

COMPUTER SCIENCE · SOFTWARE ENGINEER

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Education

Portland State University   *Portland, OR*
B.S. IN COMPUTER SCIENCE WITH A MINOR IN PHYSICS   *2014 - 2020*

Technical Profile

Programming	Python, C/C++, Java, JavaScript, Bash, SQL, MIPS/x86, LaTeX
Machine Learning	Scikit-learn, Numpy, Pandas, NLTK, Matplotlib
Web Development	HTML, CSS, jQuery, Bootstrap, Node, Express, Flask, React, Google Cloud Platform
Platforms and Tools	Linux, Windows, Vim, VSCode, PDB, GDB, Git

Projects

Analysis of NEAT (github.com/cat-cuatro/NEATProgramming)
MACHINE LEARNING

- An analysis of the genetic algorithm, NeuroEvolution of Augmenting Topologies (NEAT) developed by Ken Stanley in 2002 at UT Austin
- We first test the validity of NEAT components, then compare its performance to Q-Learning.
- The algorithms were compared based on their ability to find optimum solutions to balancing a pole and driving a car up a mountain.

Lonr (github.com/carsayao/lonr)
FULL-STACK WEB APP/MACHINE LEARNING

- Web-chat app generates Markov models from corpora to simulate conversation with notable comedians.
- Frontend uses Flask, HTML, CSS, Bootstrap. Backend uses Flask-SocketIO to establish two-way communication between client and server.
- NLTK processes user messages which are fed as input to a modified Python library, Markovify, to generate a comedian's message.

Dual-Pi DJ Visual Assistant (Pi-Visualizer) (gitlab.com/madelyea/team-visualizer)
RASPBERRY PI

- Pi-Vis is part of an art installation to be featured at Burning Man. Written in Python, the program makes extensive use of Socket programming and command line scripting.
- Via ethernet connection, program manages playlist synchronization between two Raspberry Pis, each connected to individual video output
- Developed to withstand harsh environments, minimize the probability for failure, and provide users with easy interface and deployment.

Experience

Portland State University   *Portland, OR*
STUDENT GRADER   *Sept 2019 - Mar 2020*

- Worked with Professor Caterina Paun to grade assignments for her web development courses. These courses covered HTML5, CSS, HTTP, JavaScript (ES6), Node, Express, React, and other various libraries, frameworks, and APIs. Work was focused on evaluating student assignments and projects.
- Delivered constructive feedback and tips to students struggling with assignments.
- Managed student concerns and inquiries concerning technical and academic issues.

Computer Science Senior Capstone   *Portland, OR*
SOFTWARE ENGINEER   *Sept 2019 - Mar 2020*

- Worked with sponsor over six month period to build the Pi-Visualizer project.
- Because our sponsor had clear initial requirements, we used the incremental build model:
  - Research and Experimentation
  - Milestone Planning and Scheduling
  - Incremental builds and tests
- Team dynamics, documentation, and vcs were critical in the success of this project.

Extracurricular Activity

Free Geek   *Portland, OR*
BUILDER/RECYCLER   *Sept 2011 - PRESENT*

- Disassembled computers and electronic waste for reuse and recycle
- Assembled computers that were donated to volunteers and organizations