

+55 (81) 97913-7523
Recife, PE
mlpcs@cin.ufpe.br

Miguel Cruz

Computer Engineer

github.com/miguellpcs
[linkedin.com/in/miguellpcs](https://www.linkedin.com/in/miguellpcs)

TECHNICAL EXPERIENCE

Software Engineer February 2022 - Currently
FCx Labs - Ferreira Costa Recife, Brazil

- Software Engineer focused on developing Mathematical Optimization APIs for internal processes, including shipping and dispatch.
- Working to create a new and optimized Transport Management System, utilizing non-linear convex methods for constraint programming.
- Analyzing tables and procedures done in PL/SQL in order to do ETL to apply optimization methods on a more appropriated ambient, such as cloud services.

Machine Learning Researcher Intern - Audio/ Video Quality Automated Assessment August 2020 — April 2022
Motorola/Lenovo Recife, Brazil

- As a solo developer, created a Python Package for Audio Quality Automated Assessment for deployment and test teams.
- Created and processed audio datasets, and described their characteristics.
- Developed, trained and tested Machine Learning Recurrent models based on state-of-the-art Deep Learning architectures and Fourier Analysis
- Datasets and models fine-tuning for each teams, according to their requirements.
- Also worked on evaluation of models, generating easy-to-understand plots and graphs for teams that weren't familiar to machine learning.

EDUCATION

Master of Computer Science, Centro de Informática - Universidade Federal de Pernambuco (Cin-UFPE) Currently
Research on Deep Learning approaches to implement Camera Pipelines

Bachelor of Computer Engineer, Centro de Informática - Universidade Federal de Pernambuco (Cin-UFPE) December 2021
Developed a Deep Learning approach to Align-Merge raw images.

ACADEMICAL EXPERIENCES AND ACTIVITIES

Publications

- Publication: "Street pavement classification based on navigation through street view imagery." @ Springer 2022
- Bachelor Project: "AMNET: A Deep Learning approach to Align-Merge" 2021

Teaching

- Deep Learning, Teaching Assistant @ Samsung/Cin Postgraduate Program 2022
- Descriptive Statistics, Teaching Assistant @ Samsung/Cin Postgraduate Program 2021
- Deep Learning, Teaching Assistant 2021 - Currently
- Mathematical Logic, Intern Teacher 2022 - Currently
- Mathematical Logic, Teaching Assistant Coordinator 2018-2022
- Computer Organization and Design, Teaching Assistant 2017-2018

Research

- Continual Learning applied to Image Classification 2022 - Currently
- Deep Learning applied to Image Classification and Regression; Photography 2019 - Currently
- Fuzzing Seed Corpus Optimization 2018-2019
- Computer Vision for Pavement Classification 2018

SKILLS

Tools and Languages C, SQL, Python (NumPY, Pytorch, Pandas, Librosa, Scikit-Learn, Matplotlib, PyTest), Linux, Git, Docker.
Hard Skills Algebra, Statistics, Calculus, Machine Learning, Deep Learning, Mathematical Optimization, Computer Vision, Computational Photography, Image and Audio Processing, Mathematical Logic.
Communication Portuguese, English, French
Soft Skills Easy-going and honest; Interested in learning new things and improving my weak points; Fast learner; Teaching abilities; High-Abstraction capacity