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Miguel Cruz

Computer Engineer

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TECHNICAL EXPERIENCE

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|---|---|
| Software Engineer
<i>FCx Labs - Ferreira Costa</i> | February 2022 - August 2022
<i>Recife, Brazil</i> |
| <ul style="list-style-type: none">• 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
<i>Motorola/Lenovo</i> | August 2020 — April 2022
<i>Recife, Brazil</i> |
| <ul style="list-style-type: none">• 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

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| Master of Computer Science , <i>Centro de Informática - Universidade Federal de Pernambuco (Cin-UFPE)</i> | Currently |
| <i>Research on Deep Learning approaches to implement Camera Pipelines</i> | |
| Bachelor of Computer Engineer , <i>Centro de Informática - Universidade Federal de Pernambuco (Cin-UFPE)</i> | December 2021 |
| <i>Developed a Deep Learning approach to Align-Merge raw images.</i> | |

ACADEMICAL EXPERIENCES AND ACTIVITIES

Publications

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| • 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

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| • 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

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| • 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

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| 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 |