# JOÃO CABRAL PINTO

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## WORK EXPERIENCE

**Machine Learning Investigation Scholar** 2019-2023

University of Coimbra

- Developed a modular Python library for training generative diffusion models from scratch.
- Built an accurate wildfire detection system using Twitter and a finetuned BERT model.
- Implemented a RUL estimation algorithm in the context of the European KYKLOS 4.0 Project.

**Internship: Full-Stack Developer** 2020

doDOC via Summer@IPN Internship Program

- Successfully implemented a web app aimed at evaluating the readability of textual content.
- Acquired solid knowledge of both Backend and Frontend development techniques.

## STANDOUT PROJECTS

**Modular Diffusion (GitHub)**

- Engineered an extendable Python API for training generative diffusion models from scratch, featuring a highly modular design for easy customization and integration with PyTorch.

**Wildfire Heat Map Generation with Twitter and BERT (GitHub)**

- Developed a system for generating wildfire heat maps of a predetermined region using Twitter data and a fine-tuned BERT language model.
- Achieved recognition for the project at the Portuguese conference RECPAD 2022, where our paper was distinguished as one of the top 4.

**Language Agnostic Syllabification with Active Learning (GitHub)**

- Developed a novel language-agnostic syllabification approach which leverages active learning to minimize reliance on extensive labeled datasets.
- Achieved superior accuracy scores in syllabification for Portuguese and Italian languages, using only approximately 1% of the respective datasets.

## EDUCATION

**Bachelor's and Master's Degrees in Computer Science** 2018-Present

University of Coimbra

- Achieved an exceptional final average of 18/20 in Bachelor's Degree.
- Honored with the "Best Student Award" twice for academic excellence.
- Currently writing Master's thesis on Math Word Problem Generation with Diffusion Models.

## SKILLS & INTERESTS

- **Tools**: Python, C++, Java, JavaScript, PyTorch, Scikit-Learn, Spacy, Pandas, NumPy, Git, Docker
- **Research Topics**: Natural Language Processing, Transformers, Diffusion Models
- **Languages**: Portuguese (Native), English (Native), Italian (Advanced), Japanese (Basic)
- **Interests**: Acting, Ping-Pong, Language Exchange, Powerlifting, Minecraft, Philosophy