

Cover Letter - Machine Learning Engineer

TL;DR: Machine learning engineer. Fellowship.ai Research Fellow. Lead Author of PyTorch Audio. MSc Economics. Proficient in Python. Learning C++, Julia, and CUDA. Hab mir ein bisschen Deutsch angeeignet.

Hi, I'm David Pollack. I'm a former consultant who has transitioned to becoming an ML Engineer. I am currently doing a research fellowship with Fellowship.ai, which is research arm of the commercial product, Plaform.ai. We recently achieved state of the art results classifying different fashion styles. Currently, I am working on doing semi-supervised semantic segmentation (i.e. activation heatmaps / bounding boxes -> segmentation maps). During the fellowship, I have also worked on simple question answering using memory network and language identification using embedding models.

I am involved in the ML open source community as the lead author of PyTorch Audio, which is PyTorch's project for loading and manipulating audio data. I recently widened the scope of the PyTorch Audio project to allow for simpler data augmentation with tighter C++ integration into SoX. For my contributions, I was invited to the PyTorch Developer Conference in 2018. I also contribute to the main PyTorch library having originally added N-dimensional padding to the main repo. I am frequent pull-requester to other smaller projects as well.

My master's thesis explored musical genre classification of audio clips using traditional spectrogram-based, attention RNN-based and dilated convolutional-based (WaveNet style) architectures. During my studies, I worked for a fashion video app startup developing an object recognition system to identify different classes of clothing in user-generated videos and to determine the best frame to crop from the video to showcase these clothing items. I utilized a Mask R-CNN Caffe2-based system, while adding a custom blur detection module to the network. Separately, I integrated a style transfer network into the video processing pipeline. I dockerized my work product and connected everything to the AWS infrastructure. I am proficient in linux system administration, git, cloud systems (AWS and GCE), and project management.

In the summer of 2018, I received an MSc in Economics with a specialization in Quantitative Methods from Humboldt Universität. In my free time, I am learning CUDA and Julia.

As for my goals, I am looking to work with a talented group of ML engineers to solve *meaningful* problems in audio, NLP, or vision. Not to marginalize my previous accomplishments, but finding t-shirts in photos is not something I'm super passionate about.

Lastly, I am a C1-level German speaker, which is something I'm very proud of because I did not speak a word of German before arriving in Germany in 2013. Finally, my other hobbies include bouldering, cycling, pilates, travelling, and cooking.