

Building a support chatbot

- Thesis with AI researchers from Swisscom
- AI project using cutting edge machine learning methods (Tensorflow)
- Open source data & also internal data provided by us
- Can lead to a scientific publication and/or an offer from us

Description

Chatbots are becoming ubiquitous. Big companies like Microsoft and Google are building platforms that will, in time, replace what we think of as user interfaces. The better the natural language interactions become, the less synthetic UIs are needed. Existing bots are based on both retrieval based and generative models. The former pick an answer to a new situation from a known set of interactions and are thus simpler. The latter generate new, unseen answers, from scratch that are similar to the existing answer lake. These methods are thus harder.

An architecture that is suitable for both approaches is a type of neural networks named Sequence to Sequence models (Sutskever et al, 2014 <http://arxiv.org/abs/1409.3215>). Implementations exist, including based on Google's Tensorflow (<https://www.tensorflow.org/>).

Your Tasks

In this Thesis you will create a bot that listens to an ongoing chat conversation and suggests a reply based. The bot will use Tensorflow, a modern open source library for machine intelligence from Google . Your starting point will be an already exiting sequence-to-sequence implementation.

You will improve the performance of the model by feature engineering and/or network structure modification or other brilliant way you may offer.

Your goal is to deploy, train and improve existing models. You will work with both public and private data. You will search for existing public conversations from various domains, preferably in multiple languages. We will also provide you with problem-solution pairs that simulate conversations.

To evaluate your work, you will evaluate standard metrics (e.g. precision at N) on the existing conversations.

Depending on the quality of the results we might attempt to publish it as a scientific publication. In addition, we might offer you the possibility to continue working with us.

Ideal candidate

- **Experienced with Python and a good coder in general.**
- Familiar with machine learning and AI and passionate about the topic. You should have taken at least a ML course.
- Good English is a must. Knowledge of French and German helps.

Contact

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