

Cleverbase is a company that enables people to put qualified electronic signatures on documents using a special mobile app and a personal pin code, after a one-time registration. During this registration, a person's identity is verified with a high level of certainty, compliant with European law. A live video call is part of this verification.

Therefore, Cleverbase is interested in keeping track of developments in the area of Deepfakes. Deepfakes are deep learning generated videos which falsify identities. Last year, Cleverbase had a graduate student who looked into what algorithms can be used to create Deepfakes and how algorithms can be used to detect them. As a follow-up project, Cleverbase would like a (graduate) student to generate a Deepfake dataset.

From a practical perspective, knowledge on how to create deepfake datasets will help Cleverbase to better train systems and people and will help to do better risk assessments on the effort vs. gain of attempting deepfake attacks from an attacker perspective.

From an academic perspective, comparing algorithms and the needed data and variation to create a dataset will provide insight in the working of algorithms to generate deepfakes and the principles that drive them.

The main research question that we foresee for this internship is "What algorithm can best be used to generate a deepfake dataset". Sub questions can be focused on criteria for a 'good performing' and 'usable' algorithm. As a research result, we expect both an advice on algorithms to be used and an actual dataset of deepfakes from one or more algorithms. In practice, we would like you to decide on an algorithm to work with based on criteria, collect data needed to generate the Deepfakes, and ultimately generate your own Deepfakes. We expect this internship to take around 7-8 months to complete.

For this internship we offer you the following:

- Coaching from a graduated mathematician specialising in deepfakes;
- An internship compensation of 500 euro per month;
- A workspace with the best skyline view of The Hague;
- The hardware you need to get your internship done.

Does this sound like an interesting project to you? Please contact Beatrix ten Bosch at recruitment@cleverbase.com.