PhD Thesis at Prof en Poche
on
« Automatic Speech Recognition for ADAIA, a K12 AI-based education app »

Context : ADAIA, a french acronym for AI-powered mathematics tutoring, is the solution proposed by Prof en Poche with 3 partners to a national government project (PI-IA, from Ministère de l'Éducation nationale et de la jeunesse) for 6 to 8 years old kids. In school or at home, the pupil uses ADAIA on tablet or smartphone asking verbally his question. ADAIA will analyse input, interact verbally and use 3D activities to assist him with his homework and help him to improve his mathematics skills.

Motivation : ADAIA permits adaptativ learning for each student without a teacher and classroom activities integration with the didactic feedback received by the teacher. This kind of tutoring is essential for better equal opportunities, custom follow up and detection of dropouts or disorders.

PhD Topics : The goal of the thesis is to study and develop optimized machine learning models for embedded speech recognition. The model must be efficient on smartphones and tablets and must work offline. Deep-learning open-source ASR technologies are now efficient ([Deep Speech](#)), but only on computers, so the candidate will have to use deep learning layer optimization and model reduction researches.

Location :
- Technopole Hélioparc, Pau, France : open-space, R&D center.
- Station F, Paris, France : desk in the founders program.

Partners : [Tralalère](#) (teachers website, gamification), [Cabrilog](#) (didactic, 3D), [LumenAI](#) (Clusterization, Deep Learning) & [Prof en Poche](#) (application, NLP, computer vision).

Required Competences :
- Master degree with strong skills in machine learning : Deep Learning, NLP, and classical frameworks (PyTorch, TF).
- Solid programming and IT skills are necessary (Python and C++, bash scripting, version control systems).

Contact Persons :
Please send a resume and motivation letter to:
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