LONDON'S GLOBAL UNIVERSITY

Ask-KITA - A Federated Speech Recognition Engine

Final Year Project Report

Candidate Number: TMXJ6[1]

Computer Science MEng

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[1]**Disclaimer:** This report is submitted as part requirement for the MEng Computer Science final year project at UCL. It is substantially the result of my own work except where explicitly indicated in the text. The report may be freely copied and distributed provided the source is explicitly acknowledged.

Abstract

Speech Recognition technologies are not readily available in sensitive environments that prioritise privacy especially in hospital, care homes and schools. This is because most speech recognition platforms perform speech processing on the cloud, raising confidentiality concerns as sensitive audio information are exposed to third-parties. Therefore, this project aims to develop a speech recognition API that processes speech locally (federated) without sacrificing the advantages that cloud-computing provide. The project involved developing this API and working with other developers to integrate it into their applications (e.g. MotionInput and FISE-CARE). These goals were successfully achieved although the speech models used performed accurately only on British and American accents - there has to be a move to developing universal models that perform well for any accent.