

Project Proposal – Enhance Streaming Video Playback Experience using Machine Learning

1. Introduction

As consumer media consumption habits gets more demanding with every new generation, Elisa Viihde - the market leading provider of TV and movie content in Finland - looks to provide an easier playback experience for their personal video recordings service by detecting additional metadata using machine learning.

2. Project goals

The goal of the project is to introduce a playback experience where the user can skip irrelevant parts whether they are start or end credits, previously parts or ads within the NPVR (network personal video recording) video stream. The detection will be done utilizing combination of processes and machine learning techniques on video, audio or subtitle tracks to detect certain patterns.

Usage of the new features can be measured directly from playback metrics gathered from customer devices.

3. Technologies

The applications will be developed using Python and will be deployed in Google Cloud. Any service or tool in GCP, whether related to machine learning or data analytics, will be available to be used in this project. Video data will be provided by Elisa Viihde streaming platform and is already available for processing in GCP.

We prefer running the workloads serverless, use managed services and try to optimize the developer workflows so that most of the focus is in the actual development instead maintaining platform or working through the manual deployment steps.

4. Requirement for students

- Familiar with Python and Git
- Experience or willingness to learn machine learning
- Familiar with any public cloud platform
- Fluent in English

5. Legal Issues

Intellectual Property Rights (IPR): The client gets all IPRs to the results.

Non-disclosure agreement (NDA): Signing the NDA included in the Elisa's contract template is required.

6. Client

- Elisa is a telecommunications, ICT and digital service company and a market leader in Finland. Our business is continuously changing. Digitalisation is influencing the work that people do, ways of working, management, tools and the working environment
- We offer at least 1 senior developer, product owner and architect to the project. Additionally, we will be able to use our service design team to help us to understand the customer pain points.
- We offer working space, testing laboratory, cloud environment and code base with documentation and all tools which are required for this project
- Outcome will be presented to Elisa's top management by the team

Client representative(s)

Product Owner: Mika Peuralahti, +358505066599, mika.peuralahti@elisa.fi

Lead Architect: Jere Nieminen, +358505060951, jere.nieminen@elisa.fi

Preselected Student Team Members

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7. Additional information

We expect the project results to be utilized in production usage and development will continue after the project period. This might open opportunity for the students to continue working for Elisa as a summer trainee after the project.