

RESEARCH LINE 12A	
COMPANY	Optiva Media
PhD THESIS SUPERVISOR (UPM)	Prof. Dr. José Manuel Menéndez García <i>Telecommunications Engineering School Signals, systems and radio communications department</i>
PhD THESIS CO-SUPERVISOR (COMPANY)	Dr. Iñaki Martínez Sarriegui <i>Optiva Media</i>
DESCRIPTION OF THE PhD THESIS PROJECT	<p>Content consumption habits are changing, with increasingly demanding consumers that require total control of what, when and where they consume, and with old (linear TV) and new (VoD, streaming) paradigms coexisting.</p> <p>This favours the emergence of new technological and business actors, creating an overwhelming collection of available contents, growing every day with the addition of new series and films in an increasing offer of platforms and streaming services.</p> <p>In this context, actual techniques for content search and indexation fail at providing high-level semantic capabilities, especially in textual documents when capturing the intention and/or the underlying narrative structure. The result is a huge amount of information and metadata inaccessible to automatic processing and ‘unembraceable’ by humans.</p> <p>The most direct consequence of this is that <i>end-users spend more than 30 minutes a day</i> deciding what to watch on TV, and frequently ending in selecting a content that doesn’t fit their interests or their actual mood, and that will usually be later discarded.</p> <p>While for most people this generates only some discomfort and the obvious feeling of wasting their time, in people with mental conditions like depression it could lead to anxiety episodes and other more severe complications derived from idling and, especially, for ending with the selection by discard of a content that could be harmful in psychological terms.</p> <p>In this doctoral thesis, we propose addressing this problem by means of the work in two areas: <u>Conceptual Content Modelling</u> and <u>User Profiling</u>, the outcomes of which will be combined to create an advanced recommendation framework for a ‘safe’ TV experience for people suffering from mental conditions, ultimately contributing to their wellbeing.</p>
LIST OF TRAINING ACTIVITIES	<ul style="list-style-type: none"> - Doctoral courses at UPM - Dedicated training on Digital and Pay TV at Optiva Media with technical support from the GATV-UPM. - AWS AI-ML tools webinars and specific company courses at Optiva Media - Attendance at International Artificial Intelligence conferences related to the thesis project like AIME, AIAI; with active participation on practical workshops. - Short stays of the student in institutions of recognised prestige in the field of the doctoral thesis.
SECONDMENT(S)	Tentative <ul style="list-style-type: none"> - Computational Intelligence Group, Vrije Universiteit (Netherlands) <ul style="list-style-type: none"> o https://cs.vu.nl/ci/ - Digital Health & Wellbeing Group, Fondazione Bruno Kessler (Italy) <ul style="list-style-type: none"> o https://www.fbk.eu/en/digital-healthwellbeing/ - Fraunhofer FOKUS (Germany) <ul style="list-style-type: none"> o https://www.fokus.fraunhofer.de/en/fokus/research-topics/ai - LIAAD, Artificial Intelligence and Decision Support Centre of the INESC TEC (Portugal)

	<ul style="list-style-type: none"> ○ https://www.inesctec.pt/en/centres/iaad#intro - Centre for Research & Technology Hellas (Atenas, Grecia) ○ https://www.certh.gr/root.en.aspx
REQUIREMENTS FOR CANDIDATES	<ul style="list-style-type: none"> - Degree (MSc, ...) <ul style="list-style-type: none"> ○ MSc in Statistics, applied mathematics, Computer Science or related discipline. - Skills <ul style="list-style-type: none"> ○ Strong problem-solving skills ○ Ability to communicate complex data in a simple, actionable way. ○ Ability to work independently and with team member from different backgrounds. ○ A drive to learn and master new technologies and techniques. - Background <ul style="list-style-type: none"> ○ Proficient with one or more programming languages, preferably Python and/or C++ ○ Knowledge of a variety of ML techniques: NLP, clustering, decision tree, ANN, DL, RNN, ... ○ Pattern recognition and predictive modelling experience ○ Knowledge of cloud infrastructures like AWS and their AI tools and services