Project Number: 23

Project Title: Conference program committee recommender system

Project Clients: Serge Gaspers

Project specializations: Software Development;Web Application Development;Artificial Intelligence (Machine/Deep Learning, NLP);Big data Analytics and Visualization;

Number of groups: 3 groups

Main contact: Serge Gaspers

Background:

The client is a program committee chair and needs to create a program committee for a computer science conference.

A program committee (PC) consists of members of the academic community and is in charge of deciding which submitted papers get accepted into the program of the conference.

This project develops a recommender system in a real-world scenario and will consist of a software system to help create such a PC.

Requirements and Scope:

This includes

- identifying topics of expertise that the PC needs to cover, based on textual data from webpages or calls for papers from previous editions of the conference

- predicting how many papers will be submitted in each topic based on the publication data of previous years (match papers to topics based on title, abstract, keywords)

- recommending academics to the PC

- recommending additions to a partially formed PC

- facilitating invitation via email to an up-to-date email address

Data will be obtained from DBLP, Google Scholar, ORCID, academic web pages, conference web pages, conference calls for papers.

The system should work for any computer science conference.

Required Knowledge and skills:

It is expected that this system will be used in multiple rounds to process the information of who accepst/declines the invitation to be on the PC.

The system should allow to recommend academics to the PC

- covering the needed expertise, by taking into account that each submitted paper will be assigned to multiple (typically 3) PC members

- prioritise academics who have published often at the conference (especially recently); this data should be obtained from [DBLP](https: //dblp.org/)

- prioritise diversity in terms of seniority, location, gender (this data needs to be scraped/learned/estimated)

- handle manual inclusion/exclusion from the PC (invited speakers are typically excluded, academics who have already declined/accepted the invitation to the PC)

- handle manually entered estimates of reliability of academics

It should visualize these recommendations in a succinct way and facilitate the selection of the next group of academics to be invited to the PC.

Expected outcomes/deliverables:

Functioning system, open source code, documentation, user guide.