

**NYU Stern School of Business**  
**Department of Information, Operations & Management Sciences**  
**INFORMATION SYSTEMS RESEARCH SEMINAR**

**TOPIC:** Context discovery and context integration in predictive Web analytics

**SPEAKER:** Mykola Pechenizkiy (Eindhoven University of Technology)

**DATE:** Tuesday, May 6<sup>th</sup>, 2014

**TIME:** 12:30PM-1:45PM \*Lunch served 12:15pm\*

**PLACE:** KMC 3-110

**ABSTRACT**

Predictive Web analytics is aimed at understanding behavioral patterns of users of various web-based applications or services in e-commerce, mass-media, and entertainment industries.

Accurately modeling user interests and intents in specific circumstances would enable us to achieve better personalization and adaptation to users' diverse needs and preferences.

The behavior of users may vary depending on some context (e.g. user activity, location, time, access device, weather, holidays) and potentially within the context. Thus, predictions in web analytics are inherently context sensitive, and therefore, complementing the predictive modeling with context management mechanisms are expected to make the learnt models more specialized and more accurate. In general, the number of contextual factors that may potentially affect human behavior on the Web is enormous. Therefore, one of the key challenges is to construct mechanisms, which would identify, what context is and how to integrate it into predictive modeling.

Many researchers have proposed various context-aware approaches for constructing better recommenders, computational advertising and other kinds of information systems on the Web.

The terms *context* and *context-awareness* have become highly overloaded. In this talk I will give a personal view on how to define and what is interesting to study about context from the predictive analytics perspective.

I will complement this discussion by overviewing a few application scenarios and computational approaches that we currently consider in an ongoing R&D project for context-aware modeling of (changing) user intents.

## BIO

Mykola Pechenizkiy is Assistant Professor in the Web Engineering group at the Department of Computer Science, Eindhoven University of Technology, the Netherlands.

He has broad expertise and research interests in data science. He finds inspiration for research from several applications in medicine, industry and education. He develops generic frameworks and effective approaches for designing adaptive, context-aware predictive analytics systems that can deal with evolving data and are applicable to a wide range of (Web) information systems.

He has co-authored over 70 peer-reviewed publications and co-organized several workshops (HaCDAIS@ECMLPKDD'10 & @ICDM'11, LEMEDS@AIME'11), conferences (BNAIC'09, EDM'11, CBMS'12) and tutorials (@CBMS'10, ECMLPKDD'10, PAKDD'11, ECMLPKDD'12) in these areas. He has co-edited the Handbook of Educational Data Mining and served as a guest editor of the special issues with SIGKDD Explorations, Evolving Systems, Data and Knowledge Engineering, and Artificial Intelligence in Medicine journals. He has actively collaborated with industry through internationally-, nationally-, and industry-funded projects (Philips Research, VTT, Sanoma Media Group, Sligro Food Group, StudyPortals, Teezir, Adversitement, ASML, C-Content, Multiscope). Since graduation, Mykola has been a research visitor to several universities, including Aalto University, U. Bournemouth, U. Cordoba, U. Jyvaskyla, Nanyang Technological University, Polish Academy of Science, University of Porto, U. Portsmouth, U. Sydney, Trinity College Dublin, and U. Ulster. Since June 2013 he is also Adjunct Professor in applied data mining at the Department of the Mathematical Information Technology, University of Jyväskylä, Finland.

Homepage: <http://www.win.tue.nl/~mpechen/>