

**ANALITIKA VELIKIH PODATAKA ZA PREDVIĐANJE, UPRAVLJANJE I UBLAŽAVANJE PREKIDA**

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Tema velikih podataka i srodne analize ("Big Data" and "Associated Analytics") postala je značajna kada su ogromne količine podataka postale dostupne kroz istraživanje svemira, vremensku prognozu i medicinska biogenetska istraživanja. Društveni mediji i prodajni objekti kao što su Gugl, Jutjub, Fejsbuk, Amazon i drugi takođe su se suočili sa sličnim problemima rukovanja skupovima podataka koji dostižu petabajte. Elektroenergetski sistemi sada se sada suočavaju sa značajno uvećanom količinom podataka dobijenih kroz terensko merenje i spoljne izvore kao što su različiti meteorološki podaci. Ovaj razgovor se fokusira na ulogu Analitike velikih podataka (Big Data analytics) u upravljanju i kontroli budućeg elektroenergetskog sistema putem predviđanja elektroenergetskih ispada u različitim vremenskim periodima. Objašnjen je koncept predviđanja stanja rizika i povezanih tehnika optimizacije kako bi se umanjili ili eliminisali uticaji ispada kroz odgovarajuće upravljanje rizicima i mera za ublažavanje. Predstavljeno je nekoliko primera iz stvarnog života kako se analitika Velikih podataka (Big Data) odnedavno koristi za uspešno predviđanje i ublažavanje kvarova distributivnog sistema. Razmatraju se i budući trendovi.

**BIG DATA ANALYTICS FOR PREDICTING, MANAGING AND MITIGATING OUTAGES**

The topic of Big Data and associated analytics became prominent as the huge amounts of data became available through the space exploration, weather forecasting and medical biogenetic investigations. Social media and outlets such as Google, YouTube, Facebook, Amazon and others have also faced similar problems of handling data sets reaching petabytes. The power systems are now experiencing significantly enlarged amount of data obtained through field measurements and external sources such as variety of weather data. This talk focuses on the role of Big Data analytics in managing and controlling future power system by predicting power system outages at different time horizons. The concept of State of Risk prediction, and associated optimization techniques to minimize or eliminate the outage impacts through appropriate risk management and mitigation measures are explained. Several real-life examples how the Big Data analytics are recently used to successful predict and mitigate distribution system faults are presented. Future trends are also discussed.



Mladen Kezunović je već 35 godina zaposlen na Univerzitetu Teksas A&M, sedištu koledža, TX, SAD, gde ima zvanje profesora (Regents Professor, Eugene E. Webb Professor) i direktora konzorcijuma Elektrotehničkog istraživačkog centra (Site Director of "Power Engineering Research Center"). On je već 30 godina i direktor XpertPower™ i Saradnika, konsultantske firme specijalizovane za modeliranje elektroenergetskog sistema i analitiku podataka. Njegova ekspertiza obuhvata oblast relejne zaštite, modeliranja kvarova, analize automatizovanog poremećaja elektroenergetskog sistema, računarske inteligencije, analize podataka i pametnih mreža. Autor/koautor je preko 600 radova, prezentiranih na preko 120 seminara, predavanja na poziv, i kratkim kursovima, i bio je konsultant za preko 50 kompanija širom sveta. Dr Kezunović je doživotni član IEEE i CIGRE, počasni i uvaženi član. On je registrovani profesionalni inženjer u Teksasu. Član je Američke nacionalne akademije za inženjerstvo.

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