Department of Computer Science

July 07, 2015

Dear NSF CISE Panel,

As Head of the Computer Science Department at the University of New Mexico, I am writing this letter in support of the application submitted by Dr. Abdullah Mueen, Assistant Professor of our department. Dr. Mueen, who has completed two years at UNM, is an untenured junior faculty member (tenure-track), and is eligible for *NSF CAREER* award at the time of signing. The department of computer science is committed to support the research and educational activities of Dr. Mueen's proposal titled **CAREER: Mining Unsupervised Temporal Patterns to Detect Abuse in Social Media**. In the reminder of this support letter I will summarize the importance of Professor Mueen's research and the level of support our department commits.

The University of New Mexico is one of only two US institutions for higher learning that are both Carnegie Very High Research Activity and Minority Serving universities. The state of New Mexico is also an EPSCoR as well as a Majority Minority state, meaning that the majority of our population is made up of minority groups. Over the past several years UNM CS faculty have been actively involved in REU and STEP programs, and Professor Mueen has already shown a strong commitment to train undergraduate students.

Dr Mueen's record so far is outstanding in terms of research productivity, establishing strong research agenda with significant broader impact, and exhibiting strong leadership skills. I elaborate on these points below.

Exceptional publication record: While Dr. Mueen has only been here for two years, he has built an active research group and has started publishing with his group. Overall, he has published over two dozens of peer-reviewed papers, including eight new conference papers and two new journal papers since joining the CS faculty. At this moment he mentors four Ph.D. and one undergraduate students within our department. He will soon build a large group and a strong pipeline of students through our program, and grants like this will help him support those students.

Highlights of Prof. Mueen's research include a series of papers on time series data mining. Specifically, his focus is efficient supervised and unsupervised pattern discovery from time series data with a focus on interpretability. His work on searching trillion subsequences under time warping has been selected the best paper in 2012 ACM SIGKDD Conference on Data Mining. He has solo authored a paper on mining patterns of all lengths in ICDM 2013 which was a problem believed to be intractable by many researchers.

Prof. Mueen's research excellence has been recognized with the runner-up award of 2012 ACM SIGKDD Doctoral Dissertation Contest. His work has been invited to renowned journals such Knowledge and Information Systems (KAIS) and Wiley's Data Mining and Knowledge Discovery. He has the most cited paper in 2009 SIAM Data Mining conference until now. He has presented tutorials on time series mining in ICDM 2014 and SDM 2015. He is very active professionally and serves regularly in program committees of several top-tier data mining conferences including KDD, ICDM, CIKM and SDM.

Leadership and initiatives: Dr. Mueen is the leader of the data-science efforts of our department, which we anticipate will eventually become a highly-visible center. He has already made significant waves within UNM and in the broader community. For example, he actively participated in organizing the Cyber-Infrastructure day last year. He presented a half-day tutorial on data-driven scientific discovery to attract UNM researchers in computation, which was very well accepted.

Dr. Mueen has already had significant impact on our educational program. He has created a course on data mining (CS 521), which was urgently needed in our curriculum. The highlight of the course is a final poster session that received university wide attention over the last two years. His course evaluations have been excellent until now. Recently he showed success in organizing students to participate in data mining contests to gain practical experience on real problems. The department will help him to continue this initiative.

Interdisciplinary and impactful research agenda: Prof. Mueen's research in data mining is deeply interdisciplinary. His mission is to leverage large data for the betterment of people. His proposed research on *detecting abuse in social* media has a potential to reach a long-standing impact on how people use social media. If successful, the project can impact millions of people ensuring trustworthy information sharing and diffusion. His group has already accumulated a significant amount of data supported by our department's IT. His recent project on computing trustworthiness of online reviews has been covered by several news media and is published in WWW 2015.

In closing, Prof. Mueen is a rising superstar and he is an excellent candidate for the NSF CAREER Award and I hope you will give his proposal a serious consideration. It is indicative to mention that as chair of the Department, my main concern is how we will ensure that we retain Dr. Mueen, as I am afraid of unsolicited offers from prestigious universities that will start coming in.

Sincerely,

Michalis Faloutsos
Professor and Chair
Dept of Computer Science
U. New Mexico
Tel: (505)277-3112
Email: michalis@cs.unm.edu.

The University of New Mexico · MSC01 1130 · 1 University of New Mexico · Albuquerque, NM 87131-0001 · Phone 505.277.3112 · Fax 505.277.6927 · www.cs.unm.edu

Farris Engineering Center, Room 157