

October 6, 2020

Faculty Search Committee  
University Business School

Subject: Re: Application for Tenure-Track Assistant Professor

Dear Search Committee Members:

I am writing to apply for the tenure-track Assistant Professor position with an emphasis on business analytics, decision sciences & statistics, which is advertised on your university's faculty recruitment website. I believe that the combination of my professional, academic, teaching, mentoring, & research experience integrated with my technical skill set in data mining, machine learning, quantitative research, databases & business analytics qualifies me as suitable candidate for the position as outlined in the job description.

My research areas are data mining & business analytics, with particular focus on applications in financial services, market research & regulations. Within that space, I have worked primarily on three topics: multimodal economics conditions estimation, scenario-based banking capital analysis & transferring relevant knowledge to foreign financial systems. More specifically, the focus of my research is to develop efficient & effective techniques that gain pertinent insights from the incorporation of multiple exogenous factors for economic forecasting while considering data challenges, the establishment of robust relationships between economic behavior & banking performance, & determination of knowledge transfer-ability based on fundamental commonalities found in financial banking systems.

In my dissertation, "*An Integrated Multimodal Attention-Based Approach for Banking Stress Test Analytics*", I propose a model framework that leverages advanced analytical techniques to first learn from historical economic conditions using neural network based generative processes to provide exogenous factor estimations that are then combined with banking performance profile features to be selected based on dimensional & temporal importance when predicting banking capital & loss ratios using a bespoke Dual-Attention Recurrent Neural Network.

The results of this work has been published in a top data mining conference where I was the first author, **IEEE ICDM 2019**, where the acceptance rate is around 10%. I also plan to extend this work with case studies & additional experimentation with transfer-ability of knowledge to foreign financial systems for a relevant academic journal.

Complimentary to my academic research experience, I have also gained hands-on experience at several industry research labs & divisions (e.g **Philips Research**, **IBM T.J. Watson Research Center**, **Quantitative Analytics Unit at the Securities & Exchange Commission**, & **ACA Decryptex Financial Laboratories**) during my doctoral studies in the graduate research internships & full-time industrial data scientist capacities. The research topics explored during these experiences ranged from indoor building occupancy analytics, predictive workload based cloud-computing auto-scaling analytics, robust analytical business tools for federal securities law regulations, & FinTech trade surveillance detection algorithm development. These unique experiences allowed me to apply research methods to practice & witness how theory can help assist in providing strategic insight value. Collaborating with the mentioned organizations helped me realize the proper approach to address sophisticated challenges with state-of-the-art data analytics techniques, which I will continue to evolve going forward in my professional & academic endeavors.

My passion for research is only superseded by my strong desire & commitment to teaching technical & advanced theoretical concepts to the future generation of professionals & academics. In the past seven years, I have taught several courses as the sole Lecturer/Instructor for both undergraduate, **Management Information Systems** & graduate courses, **Managing Big Data**, **Analytics for Business Intelligence** at the School of Professional Studies at Columbia University, the School of Professional Studies at New York University, the Management Science and Information Systems department at Rutgers Business School. I have also guided graduate students through their masters-level thesis or capstone requirements at both

universities as well. I have consistently maintained great evaluations from my students as they appreciate my candor, preparation, professionalism, & hands-on approach to technical aspects. I have also served as a teaching assistant for several courses for senior professors in my respective department.

Given my training, experience, & commitment to combining theoretical research concepts, with practical case-studies & relevant professional experiences for the purposes of teaching, I am confident in my ability to teach, design, & evaluate courses for a department most relevant to my background. I am able to provide the necessary subject matter & insight to help build appropriate curriculum programs in the areas of big data analytics, advanced business intelligence, data mining, machine learning, etc. I believe my unique balance of professional, academic, research & technical experiences can help identify & develop students accordingly whom may potentially gain relevant skills & confidence to apply to their respective professional or academic endeavors.

In addition to the mentioned research & teaching activities, I have also been actively involved in promoting cohesion & synergy by mentoring junior doctoral colleagues in our respective research lab (**Center for Data Mining & Business Analytics**), provided peers with professional career guidance, attended several departmental research seminars, reviewed working papers & papers for conference/journals submissions, provided feedback review sessions for research group member research presentations, written a chapter titled "**Climate Risk Analysis for Financial Institutions**" for the *Encyclopedia of GIS* , & served as co-local arrangements chair for IEEE International Conference on Data Mining (**ICDM'15**).

I am a highly productive & determined candidate who seeks to flourish in an academic career path at your institution. My professional experience, educational background, intangible soft-skills, & holistic approach to completing strategic initiatives may prove beneficial for your department's overall mission. Enclosed, I have included my CV, research , teaching & diversity statements, as well as the contact information for my references.

Lastly, I will be attending **INFORMS 2020 Annual Meeting**, in Washington DC (Now Remote) in 2020 to present in the Applications of Data Mining, Machine Learning, and Artificial Intelligence in Business and Finance . You are welcome to join me at these upcoming conferences for an virtual-meeting.

I would be delighted to provide additional materials that may help my candidacy evaluation for this opportunity.

Thank you very much for your time & consideration, it is sincerely appreciated.

Best Regards,

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